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INDIAN ECONOMIC LIFE,

PAST AND PRESENT

BY

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TO
MY FATHER

تُو ادیبِ باعمل اے صاحبِ اخلاق ہے   تُو حکیمِ باخبر ہے فلسفے کا راز داں
تُو نے وہ نکتے بتائے دین و دنیا کے مجھے   یاں بھی کام آئیں وہاں بھی کام آئیں بیگماں

طرز ہے دلچسپ و مستحسن تری تحریر کا
گونجتا ہے کان میں جادو تری تقریر کا

کلامِ مہر

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PREFACE

The first five chapters of the book, which deal mainly with the past, are based on material collected in Holland and India Office, London, in 1927. In the chapters dealing with Currency and Population I have made considerable use of material taken from my *Essays on Indian Economic Problems* (1922) and *The Population of India* (1925) The material has, of course, been carefully revised

For help in the preparation of the volume I am under many obligations My grateful thanks are due to Professor Bhupal Singh for many valuable suggestions, to Mr. Bijlsma, in charge of the colonial records in the Rijksarchief, the Hague, not only for giving me personally all facilities for the study of the valuable documents under his charge, but for his kindness in getting copies of selected documents made for the Punjab University Library, to Professor Chiranjiva Lal Mathur for reading the whole manuscript and critically reviewing it, which led to many corrections, alterations and improvements in the text, to Professor H. T. Colenbrander of the University of Leiden for more things than I can mention here, to Mrs Durga Parshad, without whose kind help it would have been impossible for me, during my very short stay in London, to get together the material used in Chapter V; to the Editors, Indian Journal of Economics, Allahabad, Weltwirtschaftliches Archiv, Kiel, and Wirtschaftsdienst, Hamburg, and Messrs. G. A. Gloeckner & Co., Leipzig, for permission to use my articles, etc published by them,* to Mrs. Horst and the late Dr. A. K. Horst, my kind and unforgetable hosts in Leiden, to L. Labhu Ram, Librarian, Punjab University Library; to Mr. Th J. G Locher who gave me considerable assistance in the interpretation of old Dutch, to L. Ram Lubhaya, Librarian, Punjab Public Library, and to the Syndicate of the Punjab University who made it possible for me to study some of the original sources of Indian economic history in foreign countries.

Though all possible care has been taken in writing and printing, I can hardly hope that all errors in th text, or in the many arithmetical calculations involved in the discussion of present problems, have been eliminated, and I shall feel indebted to any reader who directs my attention to any such mistakes

August 1929 BRIJ NARAIN.

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* *Eighty Years of Punjab Food-Prices, 1841—1920*, IJE, April, 1926, *Exchange and Prices in India, 1 13—1924*, W A, April, 1926 Much of the information contained in the chapter on Industries and some in sever chapters is taken from reports written for W [illegible] lner Vortraege, Bd. II, pp 62—

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INTRODUCTION

The following pages contain a study of facts and problems of Indian economic life—a study of what is known in our Universities as "Indian Economics" Indian economics is a misleading term, and there would be advantage in abandoning its use altogether. It was introduced by writers who supposed that the principles of economics, as they are taught in the West, did not apply to Indian conditions. The economic organisation of an agricultural country must be different from that of an industrial country, but the motives to economic activity are the same everywhere If economics is a study of mankind in the ordinary business of life, as it claims to be, and if the motives which lead men to engage in the production of wealth in India are the same as in Western countries, a study of facts of Indian economic life cannot be expected to reveal the existence of entirely new laws governing the production, exchange, distribution or cousumption of wealth No such laws have been discovered. There is thus no science of "Indian economics" as apart from the science of "General economics" Indian economics is a study of Indian economic life (facts as well as problems) in the light of our knowledge of the general principles of economics.

* * * * *

A country with India's natural resources should be one of the richest countries in the world. The fact that India is poor shows that there is need for large and fundamental changes in the country's economy.

The chief problem which confronts us to-day is that of the growing pressure of population on the soil. Agricultural research will not solve this problem There is only one solution of it—rapid industrialisation of the country

There are many amongst us who think that the economic salvation of India lies in hand-weaving and hand-spinning It is true that for hundreds of years the prosperity of India depended upon the skill of the hand-worker in the production of cloth and other articles But conditions have materially changed during the past 150 years The arts of production have been revolutionised by power-driven machinery, and experience has shown that the hand-worker cannot compete with the machine. This unequal competition is largely responsible for the present situation, and present conditions will continue until Indian industries are modernised

In the gigantic task of industrialisation of the country in the modern sense Government must help It is necessary to adopt a national policy in regard to manufacturing industries, inspired and guided solely by considerations of India's good.

A serious obstacle to improvement in the material conditions of existence in the case of the masses, whether Hindu or Muhammadan, is their indifference or inertia, born of the conviction that the existing order of things and the place of every one in the universe are pre-determined. Those who accept such a philosophy of life do not fight against injustice or adversity—they bear them patiently. Marx has well said "Religion is the opium of the people."

Doctrines of survival and re-incarnation, which will be recognised as characteristically Hindu doctrines, are spreading rapidly in the West[*] It will be interesting to watch their effect on the lives of the people when their logical consequence—fatalism—is also generally accepted. In India a new era will dawn when the masses begin to take a less fatalistic view of life and realize that a large part of the existing poverty and, at any rate, some part of the existing inequalities in the distribution of wealth and income are removable by their own efforts.

* * * * *

Attention is specially invited to chapters XIV and XV which deal with the relation of prices to exchange Since the publication of the report of the last Currency Commission no question has been more keenly discussed in India than that of exchange. The 18*d*. ratio is now a "settled fact," but from the point of view of theory the enquiry is important whether Indian prices did, as a matter of fact, adjust themselves to the rate of exchange in 1924-25. The treatment of the subject by the Currency Commission cannot, unfortunately, be described as satisfactory. The controversy can be finally settled only by a detailed examination of prices of individual commodities, such as was undertaken in connection with the currency changes of the year 1893. So far the discussion has been limited to the movements of the general index number of prices.

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[*] If one may judge from the ever-increasing number of books, journals etc devoted to spiritualism published in France, Germany and other countries See particularly the works of Allan Kardec and his followers in France, and an article on the subject of re-incarnation in Germany in *La Revue Spirite* (Paris) for May 1929.

The results of past experience have also been generally ignored. The factors which influence exchange are so many and their action is so complex that it is impossible to speak of any precise adjustment of prices to the rate of exchange in India at any time between 1873 and 1924. Such precise adjustment may have taken place in 1924-25, but then it is necessary to show, first, that the actual prices of the great majority of the more important articles fell when the gold value of the rupee was rising, and second (what is more important), that the fall in price, in each case, was due to the rise of exchange, and not to such causes as a fall in the world price, or change in the relation of production to consumption in India.

CHAPTER I

THE ORDINARY LABOURER AND THE ARTISAN

Pelsaert has given a very unfavourable account of the economic condition of the common people in the time of Jahangir He says

> " But the common people or the inhabitants of the country are poor They have always been plagued by the gnawing worm which has consumed them so that they have nothing more left than subsistence, or what is required to fill their stomachs "[1]

In the *Remonstrantie* the common people are called "poor wretches" and "contemptible earthworms," who lived in "bitter poverty, clothed with the woeful garment of sighs, the foe of love, friendship and happiness, but the friend of loneliness, wet with the daily dew of tears"[2]

Moreland in *From Akbar to Aurangzeb* quotes long passages from the *Remonstrantie* and other evidence in support of this view, and finally concludes —

> "We see the mass of the population living on the margin not of comfort but of bare subsistence, with no incentive to energy and no possibility of escape except by emigration in one of the two forms which were then within reach—either flight to some region where for the moment conditions seemed to be more favourable, or surrender of personal freedom in return for a promise of subsistence in some foreign country Such was the position in years of normal production "[3]

The lot of the common people must have been terrible if even in *years of normal production* they were forced to sell themselves into slavery in order to earn a bare subsistence.

I do not propose to extend my enquiry much beyond the reign of Jahangir. It is possible that at the time when Bernier visited India (1656-58) the ground "was seldom tilled except under compulsion," and the whole country became a desert. In any case, for the last two decades of the 16th and the first quarter of the 17th century we have much trustworthy evidence to show that India was a country where in normal years there was extraordinary plenty and living was cheap, and given the wages that the common labourer and artisans, according to all accounts, earned, they must have lived in comfort. We shall deal with the peasant class separately.

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[1] This statement is made in the concluding portion of the Dutch original of De Laet's *Fragmentum Historiae Indiae* The Dutch version has been translated by the present writer and will be shortly published

[2] P 64. [3] P. 203.

Money wages at the present time are much higher than 300 years ago But money wages mean very little. What matters is what money purchases And the purchasing power of money, according to the accounts of European travellers who visited India in the latter part of Akbar's reign and during the reign of Jahangir, was so great as to be almost incredible

The Dutch traveller Linschoten, who spent five years in Goa, (1583-88), describes Cambay as abounding in all "kinde of victuals, as corn, rice and such like graine", butter and oil, with which Cambay supplied the neighbouring places The whole coast of Malabar was "fruitful of all things" and "a very greene and pleasant lande to beholde "[1]

A later writer, Van Twist (1638) refers to the exceptional fertility of Gujrat in similar terms Mandelslo, who visited Gujrat in the same year, confidently affirmed that there was "no place in the world where a man might live more deliciously" than Ahmedabad [2]

Linschoten's account of plenty in Bengal reads almost like a fairy tale. Of rice, he says, there never was any want in Bengal, and it was exported to other places. The price was low "a candit (*sic*) of Ryce, which is as much, little more or less as fourteene bushelles (of Flemish measure), is sold there for half-a-Gilderne and (for) half-a-

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[1] Trs of 1598, Hak Soc Ch IX and XVI.

[2] Travels into Indies, Trs. 1669, p 26

Dollar." This is equal to 500 lbs. for a little more than a rupee The price of an ox or a cow was 1 Larijn† or half a Gilderne (about 7½ annas in modern currency). Sheep, fowl, sugar and other things were sold at the like rate—in fact all things were "so good cheape that it were incredible to declare", in Linschoten's own words [1]

Bengal was always noted as a land of exceptional plenty The African traveller Ibn Batuta, who visited Bengal in the concluding years of the reign of Muhammad Tughlak (1325—51) was astonished at the cheapness of provisions there One could buy in Bengal 333 Kg. (734 lbs) of rice for 3 shillings in modern currency or Rs. 2¼, or 367 lbs for a little more than 1 Re "Still I heard people declare," says Ibn Batuta, "that this was an extraordinarily high price in view of the conditions there" [2] That may well have been so, for about 240 years later, according to Linschoten, about 500 lbs could be purchased for a little more than 1 Re

As regards cattle Linschoten says "There is over all India great store of cattell, as oxen, kine, sheepe, hogges, kids and such like, and verie good cheap (and) in great aboundance' * The price of the best cow in Goa was 5 or 6 Pardawes, or 8 to 10 rupees.

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[1] Trs 1598, pp 300-301 *So also Van Twist about the abundance of cattle in Gujrat, Generale Beschrivinghe van Indien, (1638), pp 62-64.

[2] Mzik, 382 and n

† Ant Schorer, gives the value of the "Larrijn" as 9 stuivers 20 stuivers were equal to one gulden, and 24 stuivers to a rupee One Larijn would therefore be equal to 9/20 gulden or about half-a gulden = 7½ annas

It will be noted that the value of the Larin at the Coromandal coast was the same in 1616 as about 30 years before, when Linschoten visited India The Dutch factor Van Twist describes a Larrijn (p 58) as a Persian coin, long in shape, made of fine silver, without alloy, equal to 16 Dutch stuivers "or according to the [prevailing] rate of exchange"

Candit in the Trs quoted above is *Candil* in the Dutch Ed of 1910 Candy must be meant On the Malabar coast, a candy was equal to 500 lbs, on the Coromandal coast, at Petapolie, it was equal to 20 maunds of 26 lbs "haberdepoise," or 520 lbs avoirdupois (Eng Fact 1618-21, pp 70-1, 262, 304)

The original reads "*voor een halve gulden ende eenen halven daelder*"—for half-a-gulden *and* half-a-daelder, not *or.* The daelder is the Rijksdaalder equal in value in 1560 to 30 stuivers, (*Woordenboek*) The price therefore

Not less incredible is the account of plenty in Cochin at the beginning of the 16th century :

(The Portuguese Viceroy, D Francisco D'Almeida, wintering his fleet in Cochin) " Thus for a vinten of silver you got in change 20 silver coins that they call Taras, something like the scale of a sardine, and for such coin they gave you 12 or 15 figs, or 4 or 5 eggs, and for a single vinten 3 or 4 fowls, and for one tara fish enough to fill two men's bellies, or rice enough for a day's victuals, dinner and supper too " (Correa, i 624).

Tara is defined in the Madras Glossary as " a copper coin, value 1½ pies " According to Varthema (1510), in the Kingdom of Vijaynagar, 16 taras were equal to 1 fanam. If we take 15-18 fanam equal to 1 pagoda (=3 rupees), the value of a tara is 2-2½ pies, or less than 1 pice [1]

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is 15 *plus* 10 or 25 stuivers, or a little more than one rupee for 500 lbs. of rice

The Dutch *schepel* (bushel) was equal to ¼ *mud*, which was an old Dutch measure of capacity for liquids as well as corn equal to 60-70 Kg (*Staring, 91*) The bushel is therefore = 15-17½ Kg , and 14 bushel - 210-245 kg which (1 Kg = 2 205 lbs) = 463-540 lbs , or a little more or a little less than the candy

Pardo Its value at this time was 4 s 2d to 4s 6d (Hob Job) Schorer quotes the rate of 10 fanam = 1 pardo = 2 gulden at Tegnampatnam or Tiereepopelier on the Coromandal coast Taking the rupee to be ⅝ of a gulden, 1 Pardo would be equal to Rs 1—2 as —3 pies

[1] See Tara in Hobson-Jobson.

It may be pointed out that exceptional plenty in particular parts of the country till even a hundred years ago was not unknown For example, travelling through the hill tracts of the Punjab on his way to Kashmir *via* Jammu, in 1835, Baron von Huegel on enquiry found that the price of rice in the village of Habilahatty, near Bilaspur, was 5 seers for a " packa " pice. He says

" It was the rice crop I asked a peasant whether it was a good one He said 'Yes,' and on my further questioning him I received the answer that 5 seers (10 lbs.) of rice cost one ' packa ' pice I found this to be very little, but pretending that I considered it to be high, I said, ' I see that you take me to be a European who does not know the prices , from an Indian you would not demand so much ' The peasant laughed and said that I was right "

Baron von Huegel noted the disinclination of the people in the hills to hard work This he attributed to the cheapness of the necessaries of existence, particularly food grains, which enabled a coolie by working one day in a month, to procure enough food for himself and his family for the whole month. He says —

" In the Punjab coolies are usually not paid anything at all They are compelled by the Government, without whose permission no one is allowed to travel in these parts, to work for nothing (*begar*) However, I did not wish to take advantage of this system, but to pay the poor men their proper wages. The wages for a day's work, thanks to the low price of rice, are equal to the quantity of rice sufficient for not only the coolie but his family, for a whole month " (Kaschmir und dass Reich der Siek, Vol. 1, p. 65—67.)

A Dutch fleet under Admiral Steven van der Hagen visited various Indian sea-coast towns in 1603. The *Informatie* or report, written probably by Van der Wiele, refers to Massilipatam as a place extremely well-situated both for harbouring ships and re-victualling them, " for there is a great abundance in the country of cattle, and butter is much cheaper than in Holland The inhabitants were friendly and " very rich "[1]

In 1610 Pieter Claessen, Dutch assistant at the factory of Petapoly on the Coromandal coast, made certain purchases for the Dutch ship *Eendracht* and a Portuguese vessel captured by the Dutch The prices were as follows [2]

(18 fanam = 1 pagoda = 3 rupees)

	Pag	Fan.	In modern currency
88 pigs	26	11¼	Each 14½ annas
20 oxen	15	13	Rs. 2 ⅓ per ox
77 goats	6	1¾	Each about 4 annas
125 hens	1	14	23 for a rupee
31 ,,		8	,,

Lemons, firewood and straw for the cattle were also purchased but their prices are not given

Ant. Schorer in his MS account of the coast of Coromandal, written in 1616, describes the land round about Narsapoer Petta and Masulipatam as yielding much rice and various kinds of fruits Good wheat was grown further inland The following prices at Masulipatam are quoted in the MS. —

(15 fanams, according to Schorer, were equal to 1 pagoda at Masulipatam.
The pagoda = 3 Rs).
Wheat, 3-4 pag. per bhaer (480 Dutch pounds = 523 lbs), 44 to 58, lbs per Re
Rice, 1-1½ pag per bhaer , 116-174 lbs per Re
Butter, 7-10 famans per *man* (= 24 Dutch pounds = 26 lbs) , 13 to 21 4 lbs per Re.
An ox, 1-2 pag , 3-6 Rs A goat, 1-2 fan , 3 2 to 6 4 as
Hens, 60, 70 and sometimes 80 for a pag or 3 Rs
A pig, 4-5 fan. , 13 as to 1 Re Eggs, 80 for 1 fan or 3 2 as

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[1] Opkomst III, 151. Terpstra, Coromandal, 182

Other things, says Schorer, were sold at the like rate, "for there is an abundance of all things—also [of] oranges and apples, lemons and all kinds of other fruits and fish"

Terry, Sir T. Roe's chaplain, who spent three years in India (1616-19), says of the country as a whole ·

> "This wide monarchie is very rich and fertile so much abounding in all necessaries for the use of man as that it is able to subsist and flourish of it selfe, without the least helpe from any neighbour"[1]

The land abounded in "singular good wheat, rice, barley, and divers other kindes of graine to make bread (the staff of life)"

A "good mutton" sold for the value of 1 shilling (7 annas in modern currency), the same was the price of "four couple of hennes" The price of a hare was one penny (a little more than ½ anna); "three partridges for as little, and so in proportion all the rest" Terry also refers to "great store of salt" and "abundance of sugar growing in the country" The price of well-refined sugar was 2d. per pound or under (about 1¼ anna) It is not surprising that India would have seemed to Terry like an "earthly Paradise"[2] but for "discommodities" in the shape of flies, rat and wild animals

Thomas Coryat, an English traveller, (1612-17), spent in his ten months' travel between Aleppo and Agra only £3, "yet fared reasonable well, everie daies victuals beeing so cheape in some countries where I travelled, that I oftentimes lived comptenthe for a pennie sterling a day".[3]

He wrote to his mother from Agra that he had about £12 with him which "will mainetaine me very competently three years in my travell with meate, drinke[4] and clothes",[5] assuming he spent 2d. daily.

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[1] Foster 296-97 [2] Ibid, 303 [3] Ibid 248

[4] Coryat drank nothing but pure water when travelling, as he explains himself [5] Ibid, 267.

Terry had occasion to engage guards when travelling, whom he highly praises for their good and faithful service, and says "by reason of great plentie of provision in that kingdome, a man may hire them upon easie conditions"[1] The wages were "five shillings the moone paide the next day after the change" with which they were able "to provide themselves all necessaries" Further, those having "no greater meanes" sent at least half of this little sum to their parents "choosing rather for to famish themselves then to see them want'

Pietro Della Valle visited the West coast in 1623-4 He speaks of "infinite plenty" of rice in that part of the country, which accounted for the cheapness of living. "So that everybody, even of mean fortune, keeps a great family and is splendidly attended, which is easie enough, considering the very small charge, as I said, and on the other side the very considerable gains of traffic wherein most men are imployed, and the incomes of the land, through its incredible fruitfulness, I daresay, unmeasurable."[2]

In the Ms. account of Broach, forming part of the collection of papers of W. G. de Jongh,[3] written probably in 1628 or 1629, there is a reference to the cheapness of certain food-grains in Broach Poor people lived mostly on bread made from barley. "Thus a common man or labourer," it is stated, "who does not eat anything else than bread made from this grain, can easily live on 1½ stuivers daily, and taking many other things in addition, might well find 3 stuivers per day quite sufficient" The price of 33 lbs. of barley was 8 stuivers, or 99 lbs per rupee. Maize was cheaper, the price being 144-158 lbs. per rupee (5-5½ stuivers for 30 Dutch pounds).

In 1628-29 Peter Mundy made a journey from

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[1] Ibid, 313-14. [2] Travels 1,42 [3] Collection W G de Jongh, No. 128, Rijkcarchief, the Hague.

Surat to Agra, and he has left us a full description of the country he passed through Mundy travelled via Burhanpur, which he reached on 30th November 1628, having left Surat on 11th November This part of the journey was unpleasant, for the effects of the approaching drought in Gujrat were already beginning to be felt But Burhanpur was beyond the area of the famine, and as soon as he entered the province of Malwa Mundy saw not want, but plenty all around him—"all the countrie covered with corne fields greene" and "Gardiens aboundinge with fruites and hearbes" The country round Pamaria, a few stages north of Burhanpur was "not other than one entire plott of greene" Of the whole province of Malwa he says that "it never failed of aboundance" and that it supplied many other provinces of India "in tyme of scarcitie" Near Mughal Sarai, Mundy saw "all the face of the earth, as far and distant as wee could discerne" covered with green corn. Proceeding further to Shahdaura he found "the country continueinge fruitefull and pleasant", and round about Hasanpur he "could hardly see one spott of untilled ground"[1]

Later Mundy made a journey from Agra to Patna and saw another large part of the country The whole of this region, as is well known is very productive, and there are several references in Mundy's journal to the abundance of corn, sugar and cotton in the tracts through which he passed On the way he met "Tandas of oxen" or Banjaras with, sometimes, as many as 20,000 oxen laden with provisions, going from one place to another

The evidence of contemporary writers from 1583 to 1638 quoted above suggests two conclusions

1. In view of the abundance and the extraordinary cheapness of all necessaries, it would be possible for the common labourer 300 years ago to live comfortably, pro-

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[1] Travels, p 55-57

vided he earned a certain minimum wage—a subject which will next claim our attention.

2. It would seem that caution is necessary in interpreting later writers like Bernier and Travernier who suggest that "a considerable proportion" of the good land remained untilled from want of labourers, or that one could see in India "whole provinces like deserts," from whence the peasants had fled on account of the oppression of the rulers. Where did the whole population of these provinces go? Did they all emigrate as slaves to foreign countries? It is not realised that it was in the common interests of the peasants as well as of the most oppressive ruler that the land should be cultivated—without cultivators there is no revenue. The land revenue demand might be severe, but it would be only very seldom that it would be made so oppressive as to leave the cultivator no alternative except flight.

The conclusions of Bernier and Travernier are the results of hasty generalisation.[1] What they saw was particular, small parts of the country desolated by the tyranny of some governors, not whole provinces. The India which Bernier and Travernier saw was not very different from the India that Linschoten, Terry, Mundy and others have described. There cannot be plenty where large parts of the country have been turned into deserts, and it is impossible to make peasants grow abundant supplies of all kinds of provisions almost all over the country by means of the whip.

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[1] Another example of bad generalisation, or rather misrepresentation, is furnished by Pelsaert on pp-54 55 of the *Remonstrantie*. He tells us that when a lord died, or even before the breath was out of his body, the King's officers made an inventory of everything he possessed, "down to the value of a single pice." The whole estate returned to the King, "except in a case where the deceased has done good service in his lifetime, when the women and children are given enough to live on but no more." Moreland points out in a footnote that another but not materially different interpretation of this sentence is possible. If such were the usual treatment meted out to the great lords on their death-bed, how would the King have any devoted servants at all? Hawkins has described this custom more faithfully. "The custome

We next turn to wages

Pelsaert says:

> "For this slack and lazy service the wages are paid by the Moghuls only after large deductions, for most of the great lords reckon 40 days to the month, and pay from 3 to 4 rupees for that period, while wages are often left several months in arrears, and then paid in worn out clothes and other things "[1]

It was naturally impossible for the servants to maintain themselves and their families on such low wages They therefore stole whatever they could, and their manner of life differed "very little from that of the workmen in the wealth of their poverty."

Moreland does not fail to point out that if 40 days are reckoned to the month, 4 rupees per month represent wages of substantially less than 3 rupees for a month of 30 days. Further, if wages are paid in worn out clothes etc, they dwindle down to practically nothing

Most of the great lords may have thus robbed their servants of some, or even great part of their earnings But these servants would not depend upon the wages paid to them by their masters. They had a more important source of income, as the *chaprasis* of high Government officials to-day—tips from those who called on their employers

This practice is so old and so well known that it is not necessary to produce formal evidence to show that it was prevalent 300 years ago It may still be mentioned that in the *Oncostboek* (Accounts book)[3] kept at the Dutch factory at Agra the following items appear

19 March, 1637 Paid to the porter of Duke Assoffchan, Re 1

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of this Mogoll Emperour is to take possession of his noblemens treasure when they dye, and bestow on his (their) children what he pleaseth, commonly he dealeth well with them, possessing them with their fathers land, dividing it amongst them, and unto the eldest sonne he hath a very great respect, who in time receiveth the full title of his father" (Foster, pp 104-5)

[1] *Jahangir's India* pp 62-3 [2] Moreland II p 194.

[3] Collection W G. de Jongh, No 123

21 March, 1637	Paid to the porter and peons of Assallatchan Rs 2.
25 April, 1637	Paid to the porter of Duke Assoffchan Rs 2
May, 1637.	Paid to guards (*waechters*) and peons of Kotwal, Rs 2

No conclusions regarding the general rate of wages in the time of Jahangir can be based on the wages paid by the great lords to their servants, for their money wages, in most cases would be only a subsidiary source of income

It does not appear that the practice of the great nobles of reckoning 40 days to the month was followed by every one

We have seen that Terry's guards "did not desire above five shillings the moone, paide the next day after the change '[1]

Again, at the Dutch factory at Agra, wages were regularly paid on the day of the new moon. The monthly accounts are generally headed thus

22 June, being the new moon, monthly wages were paid to the following employees and peons, namely "

In the year 1637, wages were disbursed at the factory on the following dates 22 June, 22 July, 22 August, 20 September, 20 October, 18 November, 18 December, and the wages for the month of December 1637 on 17 January 1638

It is reasonable to suppose that the Dutch followed the established custom of paying wages at the end of 30 days

Hawkins, while describing "the strength, wealth and government" of the Great Mogol, says that there were 36,000 officers and men who belonged to the court and camp, namely "porters, gunners, water-men, lackeyes, horse-keepers, elephant-keepers, small-shot, frasses (*farrash*) or tent men, cookes, light-bearers, gardiners, keepers of all kinds of beasts All these be payed monethly out of the King's treasurie, whose wages be from ten to three rupias"[1] Hawkins does not say that wages were paid for a month of 30 days, but in the absence of any statement to the contrary, the ordinary interpretation of the word "monethly" may be taken to be the correct one.

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[1] **Foster, 313.**

We have very scanty data regarding wages paid to skilled and unskilled workers in the time of Jahangir. Following Moreland we may therefore take wages paid to peons employed in European factories as indicating roughly the common rate of wages in the case of men possessing no exceptional qualifications.

The Agra Accounts Book has been mentioned above. The wages paid in the months of June and July 1637 were as follows

22 June, being the new moon, monthly wages were paid to the following employees and peons, namely. To

	Rs.
Bijcha, servant	3½
Abdou, *sais*	3½
Achob (Yaqub), *sais*	3½
Abdulla, porter	3½
Piroos & Wallij (Feroz & Wali), peons, each	3½

22 July, being the new moon etc

Sheikh Mamet (Mahmud), servant of W Geleynssen	4½
Bijcha,	3½
Quoer, *sais*	4½
Abdou, *sais*	3½
Abdul, porter	3½
Walli & Piroos, peons, each	3½
Chanouw (Chunnu), torch-bearer	4

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[1] Foster, 99

From Oct. 1637 to Jan. 1638 a *dhobi* was paid Rs. 5 per month In Jan. 1638 Ramsa peon (Ram Sahai or Raushan) was paid Rs 4, and Bynia (Bina?) "de veeger" (sweeper) Rs 5.

These accounts suggest a rate of not less than Rs. 3½ per month of 30 days for the peon, 10 years after Jahangir's death. We have seen that Hawkins mentions Rs 3 to 10 as the monthly wages paid to officers and men attached to the court and camp On the whole we are justified in concluding that the most common rate of wages for ordinary unskilled work in the time of Jahangir was about Rs 3 per month, though in some cases a worker might earn less, as Terry's guards, whom he paid 5 shillings per month (equal to Rs. 2 22 at 2s 3d to the rupee), or more, as the peons of the Dutch factory

We lack sufficient data for other parts of the country, and it cannot be argued that the rates of wages were uniform throughout the country. Wages at the present time, in spite of the improved means of communication and the greater mobility of labour, differ very considerably in different provinces, and in different parts of the same province It is probable that in some parts of the country, where trade and production were less important, wages were less; but on the west coast (Broach, Ahmadabad, Cambay and Surat) the typical rate my have been 3 stuivers daily, suggested by W. G de Jongh for Broach, or 3¼ rupees a month, assuming continuity of employment

Rs. 3 per month, at 2s. 3d. to the rupee is equal to 6s. 9d or a daily wage of 2·7d. Suppose a peon or a servant "with no exceptional qualifications", earned no more than 2·7d. a day. Would he, in normal years, be so perilously near the margin of starvation as to wish to end his misery by surrendering his "personal freedom in return for a promise of subsistence in some foreign country"?[1]

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[1] **Moreland, II p 203.**

The answer must be 'No' If Coryat, an English traveller, could maintain himself "very competently" in in his travels "with meate, drinke and clothes" for 2d a day, a common labourer and a native of the country, could easily maintain himself perhaps on 1d per day. A daily wage of 2·7d. would buy not only a sufficient quantity of food and necessaries, but something more

Pelsaert in the *Remonstrantie* quotes one set of wages, 5 or 6 *tackas* equal to 4 or 5 stuivers daily, for "goldsmiths, painters, embroiderers, carpet-makers, cotton or silk weavers, blacksmiths, coppersmiths, tailors, maisons, builders, stone-cutters, a hundred crafts in all"[1].

The diet of these craftsmen is thus described —

> "They know little of the taste of meat For their monotonous daily food they have nothing but a little *khichri*, made of green pulse, mixed with rice, which is cooked with water over a little fire until the moisture has evaporated, and eaten hot with butter in the evening, in the daytime they munch a little parched pulse or other grain, which they say suffices for their lean stomachs"

[Moreland translated the whole passage in *From Akbar to Aurangzeb* with an addition "and eaten hot with *a little* butter in the evening"[2] (*italics mine*) The reference to *khichri* in the original is "*dicelck met boter overgietende des avonts werm eeten*", which literally translated means, "which they eat hot in the evening, pouring butter over it".]

Khichri is well known over large parts of northern India It is a wholesome preparation which is still occasionally taken by the rich and the poor alike. It is always eaten hot with a sufficient quantity of ghee, which may be inferred from the common saying

"Where is the ghee gone? Into the khichri"

Pelsaert mentions *khichri* with the object of emphasizing the poverty of the poor But *khichri* could not have been the "monotonous daily food" of any class of labourers in Agra. We have seen that according to Terry the common people made their bread up in cakes which they baked on small iron hearths (called *tawa*) Bread was what the common people ate then, and what they eat in the United Provinces and the Punjab to-day Why should Terry be disbelieved? *Khichri* could not have been the monotonous daily food of poor people also for another reason Rice, the main part of *khichri*, was not grown so extensively in north-western India as wheat, barley and other grains, and consequently was dearer in price The prices quoted in the *Ain* are

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[1] **Jahangir's India, p. 61.** [2] **p 199**

	Lbs per Re
Wheat	185
Barley	277½
Gram	277½
Jowar	222
Rice	111
Moth	185

Bread made from gram or barley would have been cheap enough, and yet, according to Pelsaert, the people were so poor that they ate nothing, day in day out, but *khichri* made of moth and rice, moth being as expensive as wheat and rice more expensive still!

And the cheapest spring millet cost only 6 *dams* per *man* of 55½ lbs. or 370 lbs per rupee![1]

It is obvious that Pelsaert speaks in the language of extreme hyperbole and that he has considerably overdrawn the picture.

The prices of food-grains could not have been much higher in the time of Jahangir than in the later years of Akbar's reign. If barley or gram was sold at the price ot 277 lbs. per rupee, then no labourer, having a normal family of 4 or 5, need spend more than 1 Re. on bread for the whole family for a whole month. This would allow a daily consumption of 9 lbs. of grain, which is more than sufficient for a family of 5 And if the labourer earned no more than Rs 3 per month, he would have still Rs 2 left for ghee, milk, vegetables, salt, sugar and clothes

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[1] Ain I. p 62.

Pelsaert writes They know little of the taste of meat" But the great majority of the labouring classes in these days were Hindus, who eschew meat for other reasons Meat was cheap enough, and if Coryat, as has been said above, could buy enough meat (besides other food, and clothing) without spending more than 2d. a day, why should Pelsaert's craftsmen, earning much more than double the amount, be unable to know its taste, if they wanted to ?

According to Pelsaert these craftsmen earned "only 5 or 6 tackas, that is 4 or 5 stivers in wages"[1] by working from morning to night Now a tacka means 2 pice, 5 or 6 tackas would be 10 to 12 pice. If 55 pice are reckoned to the rupee (see below) 5 or 6 tackas would be equal to 4⅓ to 5¼ stuivers (24 stuivers=1 Re) Taking the rupee to be equal to 2s 3d., a daily wage of 5 or 6 tackas would be equal to 5 to 6d or 2½ to 3 times the daily expenses of Coryat

The lowest wage earned by the ordinary unskilled labourer under Akbar was 2 dams or Rs 1½ a month This wage was appreciably lower than the wages paid to Terry's guards (1616-19), the wages earned by the common labourer in Broach in 1628 or 1629, and those paid to peons in 1637 in the Dutch factory at Agra

It would therefore seem that wages had risen in the reign of Jahangir as compared with the time of Akbar

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[1] Pelsaert in giving the equivalent of tackas in stuivers only omitted the fractions It would thus appear that about 55 pice were reckoned to the rupee in Agra even in his time, that is, in the concluding years of Jahangir's reign

Moreland says

> "The Agra Accounts (*passim*) suggest that nominal wage rates had scarcely changed from those of Akbar's time recorded in the *Ain* (i, 225) Akbar allowed ordinary labourers 2 and 3 *dam* per *diem*, the Dutch in 1637 paid usually 4 pice (2 *dam*) to ordinary labourers and 7 pice to superior men Carpenters were paid 12 and 13 pice by the Dutch, Akbar had allowed 6 and 7 *dam* for skilled men "[1]

If 2 pice were equal to 1 *dam*, then the rates of wages paid to skilled as well unskilled labourers in 1637, as shown by Moreland, were the same as those paid about 40 years earlier

The *Agra Accounts* quote the value of the rupee in terms of pice for several months in 1637 The value was not fixed, as would appear from the figures given below

1637	*Pice to the Re (Agra Accounts)*
Jan	50
Feb	53
March	52
April	52
May	51
June	53
Dec	55

The rate thus varied between 50 to 55 per rupee. 40 *dams* went to the rupee in the time of Akbar, and if the dam is taken to be equal to 2 pice, as Moreland does, a rupee would be equal to 80 pice Moreland has seen and used the *Agra Accounts*, and it is not clear why he prefers the rate of 80 pice to the rupee when in the year 1637, for which the rates of wages are quoted, a rupee at Agra exchanged for not more than 55 pice.

The value and weight of the pice are frequently referred to in *English Factories* As a standard of weight, 30 pice[2] or 36[3] represented a seer (Van Twist refers to a seer 18 pice in weight p. 58) Between 1618 and 1634 or 1635 the rupee was almost uniformly rated in Burhanpur[4] and

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[1] Moreland II p 194 n

[2] *English Factories*, 1622-23, 285. [3] Ibid, 30 [4] Ibid 1618-21,269

Gujrat at 80 pice to the rupee 2½ Mahmudies were equal to a rupee, and a Mahmudi was equal to 32 pice[1]

But about 1636 the value of the pice in terms of the rupee began to rise When the English ship *Bassien* returned to Sind with lead and casks (Feb 1636) it also carried pice to the value of 200 rupees, valued at 58 pice to the rupee "which is very great advance, if many of them might be purchased heere or readily put off theare "[2]

From 80 to 58 per rupee was a considerable rise in the value of the pice, and profit could be made by buying them where they were cheap and selling them where they might be dearer

Van Twist, whose work appeared in 1638, quotes the rate of 25 or 26 pice to the Mahmudi, and 53 or 54 pice to the rupee[3] Already in 1637 or 1638 (if not earlier) the Mahmudi had risen to $\frac{4}{9}$ of a rupee, which had come into circulation in Ahmadabad and the whole of Gujrat, with the exception of Broach, Cambay and Baroda. The rate quoted by Twist is 10 $\frac{2}{3}$ stuivers to the Mahmudi, or 1 Mahmudi equal to $\frac{4}{9}$ of a rupee at the fixed rate of 1 rupee equal to 24 stuivers

The value of the pice quoted by Travernier is 46 to 56 to the rupee. "On my last journey [1645], the rupee at Surat was 49 paisa", says Travernier, "but there are times when it is worth 50 and others when it falls to 46"[4] At Agra, according to Travernier, it was worth 55 to 56 pice

It seems that later, in some parts of the country, the value of the rupee in terms of pice fell still lower—below 45. "Here is not full 45 pice to the rupee", we read in a letter from Kandiaro (Sind) dated 8th July 1656.[5]

The rise in the value of the pice may have been due to its scarcity, for "scarcytie of pice" at Nowagaon

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[1] *Eng* , *Facts* 1824-29, 150 n. and 1630-33, 209 [2] Ibid 1634-36, 164. [3] *Generale Beschryvinghe van Indien*, 58 [4] Ed Ball, 27. [5] *Eng Fact* 1655-60, 80.

(Hardoi Dist, U P) is complained of in a letter dated Jan 4, 1651,[1] but whatever its cause, it will be admitted that the rate of 80 pice to the rupee was no longer current in 1637, whether at Agra or in Gujrat We are more concerned with Agra than Gujrat, and there is unimpeachable evidence, that of *Agra Accounts*, that in 1637 the rupee did not purchase more than 55 pice at Agra Converted into monthly rates in rupees, and in modern currency, the rates of wages quoted above at the two periods, taking 40 *dam*= 1 Re =55 pice, may be thus compared

	DAILY WAGES		MONTHLY	
	Akbar Annas	1637 Annas	Akbar Rs	1637 Rs
Unskilled labour				
Ordinary	8	1 16	1 5	2 18
Superior	1 2	2 04	2 25	3 28
Carpenter				
Ordinary	2 4	3 49	4 5	6 55
Superior	2 8	3 78	5 25	7 1

Wages in 1637 were thus undoubtedly higher than in the time of Akbar, and this conclusion is in harmony with what has been said above about the rise of wages in the time of Jahangir

Attention in this connection may also be drawn to a small "item of information" noted by Moreland In the year 1636 a messenger, while waiting at Surat, was paid an allowance of 3 pice daily, and so came to "cost more brasse than his body weighs "[2] This is equal to Rs 1½ monthly, and Moreland compares it with the allowance of a *dam* daily, or ¾ Re monthly fixed for the lowest grade of slaves at Akbar's Court, "the two figures represent practically identical quantities of grain on the basis of normal rates "[3] If this messenger earned only Rs 1½ monthly, he was in 1636 little better off than the lowest grade of Akbar's slaves about 40 years before

This is again incorrect. The messenger came to Surat from Masulipatam, and it is probable that his services were rewarded by the English factory at Masulipatam, which engaged him, quite apart from the allowance of 3 pice a day which he received at Surat while he was detained at that place

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[1] *Eng Fact* 1651-54, 10

[2] *Eng. Fact* 1634-36, 294

[3] *From Akbar to Aurangzeb*, 195 n

The earnings of runners at Agra were more than Rs 1½ monthly—perhaps a little more than double that rate They would, of course, not be exactly the same all over India, but it is reasonable to suppose that, for the same service, they could not have been as low as Rs 1½ at Masulipatam or Surat

On the 1st Feb 1637 an "express" was engaged by the Dutch factory at Agra for Nagpur, a distance of about 450 miles, for five rupees If the runner did 25 miles a day, he would complete the journey to and from Nagpur in 36 days of actual running He might be detained at Nagpur for a week or ten days, for which he might receive an allowance of 2 or 3 pice daily, as the messenger mentioned above. He would thus earn at least 3½ Rs per month

Expresses for Surat were engaged by the same factory in 1637 on 4 March, 26 March and 2 May In each of the three cases the runner was engaged for Rs. 9. The distance between Agra and Surat, *via* Burhanpur is stated by Mundy to be under 400 *cos* or 600 miles (more exactly, 396 *cos*, equal to 551½ English miles *Travels*, 66 and *n*) The runners may have followed a shorter route. The wages of these runners would amount to at least Rs 4 per month, assuming that they did 25 miles daily Banarsi, the swift runner, who carried the news of Jahangir's death from the mountains of Kashmir to Shah Jahan at Junnar (west of Ahmadnagar), a distance of over 1000 miles, covered the distance in 20 days (E & D VI, 437)

Judged by present standards, wages in the time of Jahangir were high, even extraordinarily high in some cases Not only did the hired landless labourer not starve, but got more to eat than his present descendent

As we have seen, there is much evidence to show that wages of both skilled and unskilled workers had risen in the second decade of the 17th century, while there is no evidence of any fall in the value of money Moreland agrees that no fall in the value of silver occurred in the reign of Jahangir Prices therefore would have been generally the same in the time of Jahangir as in that of Akbar. It may be further mentioned that before the rise of the export trade in food-stuffs not more than 50 years ago, the prices of agricultural produce all over India fluctuated with the seasons They rose in years of scarcity or famine but returned to the old level in years of normal rainfall No export of food-grains suddenly started in the reign of Jahangir, and it would be correct to assume, in the absence of information about the actual level of prices, that in that Emperor's reign the general level in years of normal rainfall was the same as in that of his predecessor. We may therefore take the prices given in the *Ain* as an index of the purchasing power of money in the time of Jahangir also.

For purposes of comparison I have taken the four principal food grains, wheat, barley, *jowar* and gram, and *ghee*, as they are articles which account for a considerable proportion of the expenditure on necessaries in the case of a labourer. Further, the question is whether the labourer then got more or less to eat than to-day.

The prices in the *Ain* are given in *dams* per *man*. Akbar's *man* was equal to 55½ lbs. and 40 *dams* were reckoned to the rupee in the payment of salaries. Akbar's rupee contained a little more silver than the present rupee, but the difference is so slight that it may be neglected for the present purpose.

The prices quoted in the *Ain* perhaps are not "averages" in the statistical sense. They may be accepted as "reasonable" prices, as Moreland suggests. There would be little objection to our comparing them with "normal" prices at the present time. The prices of food-grains in 1927-28 given below are averages of "normal" rates quoted in the *Punjab Season and Crop Report* for that year. The price of *ghee* is what may be regarded as a "reasonable" price at Lahore at the present time.

Prices then and now

	1600 *dams* per *man* of 55½ lbs	1927-28, Rs per md of 82 lbs.			
		Rs	a	p	
Wheat	12	4	12	1	average of 29 districts
Gram	8	4	3	2	,, 20 ,,
Barley	8	3	6	4	,, 13 ,
Jowar	10	4	4	0	, 8 ,,
Ghee	105	68	0	0	Lahore

Prices in Lbs per Re.

	1600 Lbs	1927-28 Lbs	Price in 1927-28, taking price in 1600 as 1
Wheat	185	17 2	10 8
Gram	277 5	19 5	14 2
Barley	277 5	24 1	11 5
Jowar	22 2	19 3	11 5
Ghee	21	1 2	17 5

It will be seen that the rise of price is greatest in the case of *ghee*, the price of wheat shows the smallest rise From the point of view of the labourer the price of the coarser grains is more important than that of wheat, and *ghee* cannot be ignored Moreland in an article in the J R. A S for 1917 noted the greater comparative rise in the price of *ghee*, but said "The figure for *ghee* is interesting it is well known that the price of this commodity has risen of late years owing to special causes other than the fall in the value of the rupee, and the substantially larger factor in its case (11 6) is in accordance with what might have been expected" The price of *ghee* having risen owing to causes other than the fall in the value of the rupee, Moreland decided to ignore it * Would the fact that the price of *ghee* had risen owing to special causes enable any one to buy it at a lower price?

Whatever be the cause of the rise in price, we cannot leave out *ghee* The price of *ghee* has risen almost continuously with that of other articles during the past 30 years, and its present price is not less "normal" under existing conditions, than those of the four food-grains Further, as is well known, *ghee* forms an important part of Indian dietry

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* Moreland concluded that Akbar's rupee was worth about 7 times as much as the rupee in 1910-12, if *ghee* were not ignored the factor would be 8 instead of 7, p 820

I have assumed above that the quality of *ghee* has remained unchanged This may be doubted Most of the *ghee* sold in large towns is an adulterated and inferior article

We find thus that the rupee in terms of the four foodgrains and *ghee* three centuries ago was worth about 13 times as much as the rupee to-day

What was the purchasing power of wages and incomes in the time of Jahangir, in terms of the four grains and ghee, as compared with the present time?

The purchasing power of the wages paid to servants attached to Jahangir's court and camp (Rs 3-10) was equal to Rs. 39—130 of to-day

The purchasing power of wages paid to peons, men without any exceptional qualifications, employed in the Dutch factory at Agra (Rs 3½ monthly) was equal to that of 45 rupees of to-day

The wages of W G de Jongh's servant (Rs 4½ monthly) were equal to Rs 58, Chunnu, the torch-bearer, received a salary of Rs. 52 In January 1638 Byma "de veeger" (sweeper) was actually paid a wage equal to Rs 65 The runners engaged for carrying letters to Surat earned about Rs 52 per month

Nor were the wages earned by the common labourer low—they were appreciably higher than the earnings of the same class to-day. Four to seven pice daily are equal in purchasing power in terms of the four food grains and *ghee* to a daily wage of 15 annas to Re. 1-10, or an average of about Re 1-5 The most common rate of wages paid to an ordinary labourer in Lahore is 12 annas, and to a superior man 14 annas

According to the *Agra Accounts*, skilled labourers were paid 12 to 13 pice daily, which would be equal in purchasing power to Rs 2-13 to Rs. 3-1, or an average of Rs. 2 15. The daily earnings of skilled workers in Lahore at the present time are as follows.

Class of artisan	Daily earnings in Rs	Average Rs
weaver, cotton	1-0-0 to 1-4 0	1-2-0
,, silk	1 12-0 to 2-4-0	2-0 0
,, wool ..	1-12-0 to 2-8-0	2 10 0
Embroiderers	2 0-0 to 2-8 0	2-4 0
Mat weavers	1-0 0 to 1-8 0	1 4 0
Coppersmiths	1-8 0 to 2 0 0	1 12 0
Goldsmiths	2 0 0 to 3 0 0	2 8 0
Silversmiths	1 12 0 to 3 0 0	2 6 0
Blacksmiths	1 4 0 to 2-0 0	1 10 0
Cutlery makers	2 0-0 to 3 0 0	2 8-0
Steel trunk makers	1 8-0 to 2 0 0	1-12 0

(I am indebted for this information to the Department of Industries, Lahore)

The daily earnings of carpenters generally vary between Rs 2 and Rs 2-8 A daily wage of Rs 3 is sometimes earned, but is not common

The craftsmen whose poverty has been so graphically described by Pelsaert earned wages (10 to 12 pice) equal in purchasing power to Rs 2-6 to Rs 2-13, an average of about Rs 2-10 Would any one who suggested that artisans earning Rs 2-10 a day at the present time could not buy bread to eat and were forced to live on parched grain and *khichri* be taken seriously?

It must be admitted that the ordinary hired landless labourer got more to eat in the time of Jahangir than to-day, and that in terms of the four food-grains and *ghee* the purchasing power of wages earned by most classes of skilled workers was equal to, if not somewhat greater than that of wages earned by the same classes of hand-workers at the present time For peons Jahangir's India was a paradise The modern *chaprasi*, whether in Government or private service, is usually paid Rs 14—18 in exceptional cases, perhaps, Rs 20—25 Apart from *chaprasis*, many of those who have passed the Matriculation examination of an Indian University would be happy to start their career on a salary equal in purchasing power in terms of food-grains and *ghee* to that paid in the Dutch factory at Agra in 1637 to peons

The hardest case is that of the hand-weaver, particularly the cotton weaver The wages of weavers in Lahore have been quoted above Recently an inquiry has been made, under the auspices of the Department of Industries Lahore, into the condition of the textile industry in the Punjab, and the results have been published in the form of a monograph The daily average earnings of the weavers for the whole of the Punjab are as follows

Skilled Muhammadan weaver	1 0 0 to 1 1-0
Ditto, Hindu	1 0-0
Unskilled Muhammadan worker, weaving khaddar khes, dhoties, durries, lungies and lachas	0 8 0 to 0 10-0
Ditto, Hindu	About 0 8 0
Skilled cotton weaver producing susi sahties lungies (loin cloth as well as turbans) majnun, khes, pagris, pech, and durries out of mill made yarn	1 0 0
Unskilled worker, using hand spun yarn	Average of 0 8 0
Skilled silk weaver, producing daryai, susi, gulbadan and lungis	1 4-0
Ditto, unskilled	0 12 0
Skilled wool weaver making pashmina chaddars dhussa Rampuri chaddars, taftas and superior blankets	1-0 0
Unskilled weaver of coarse blankets, lois, pattus and pattis	0-10-0

The earnings of weavers in the Punjab (and it is doubtful if weavers in other parts of India are more prosperous) may correctly be described as starvation wages The weaver in the time of Jahangir (representing the most important and numerous class of artisans) compared with his modern representative, lived in luxury

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Note —(p 15) Terry says ' The common people make their bread up in cakes, and bake it on small iron hearths, which they carry with them when as they journey, making use of them in their tents " (Foster, 296)

CHAPTER II.

THE TILLER OF THE SOIL

The British Government has done more to improve Indian agriculture and to increase production than any of our rulers in the past Agricultural production in normal years is much greater than it ever was and, thanks to the development of irrigation and rapid means of transportation, the very meaning of the word famine has changed

No part of India has benefited more by the development of irrigation than the Punjab Our canal system is one of the wonders of the world, and its importance to the economic life of the Punjab is recognised by everyone.

The largest area irrigated by Government irrigation works is in the Punjab Taking the average of the five years 1921-22 to 1925-26, of the 26 6 million acres irrigated by State-owned works in the whole of British India, no less than 10 4 million acres were in the Punjab. The average estimated value of the crops raised on areas receiving State irrigation in the same period was for the whole of India 150 crores of rupees, and for the Punjab about 57 crores [1] The area receiving State irrigation in the Punjab has expanded rapidly during the past 20 years In 1906-07 it amounted to about 6 million acres, and in 1926-27 to about 10½ million acres [2] In 1926-27, the total area under the crops sown in the Punjab amounted to 30 4 million acres, of which the irrigated area was about one-third But the approximate value of the crops grown on the irrigated area was 59 crores, and of unirrigated crops 32 crores.[3]

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[1] *Report of Agl Com.*, 327 [2] *Irrig Rep Punj*, 1926-27 [3] *Season and Crop, Punj* 1926-27.

Attention has also been paid to the improvement of agriculture Among other things which deserve notice is the introduction of improved varieties of crops Of the total area in British India under cotton, wheat, groundnut and sugarcane, the area under improved varieties is 22·7 per cent, cotton 11·9 per cent, wheat, 14·1 per cent, jute, 10·3 per cent groundnut, and 7·2 per cent, sugarcane[1]

It is estimated that in the Punjab of the area under cotton approximately 55 per cent is now under improved varieties while the area under improved Desi cottons has almost doubled In 1926-27 the total area under improved wheats amounted to nearly 1½ million acres, out of a total of about 9½ million acres under this crop The Agricultural Department has calculated that the gain to the Punjab from the improved wheat types alone amounts to 3·6 times the present annual budget expenditure on all the operations of the Agricultural Department[2]

The facts mentioned are sufficient to convince any one of the very great increase in recent years in the amount of agricultural wealth and income of the whole of India generally and of the Punjab particularly

While India's agricultural wealth and income have increased, the share taken by the Government as land revenue has steadily decreased Before 1855 about two-thirds of the "net assets" represented the Government demand In that year the Saharanpur Rules were issued by which about one-half of the ' net assets" was fixed as the maximum of the Government's share in the profits of cultivation In actual practice, in many parts of the country, a smaller share was taken, and in 1929 it has been prescribed that in the Punjab not more than 25 per cent of the "net assets" will be taken as the land revenue. At the same time the period of settlement has been fixed at 40 years

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[1] *Rep of Agl Com.*, 95 [2] *Adm Rep Punj* 1926-27, 56-7

At the present time the land revenue amounts to about 5 per cent of the value of the gross produce of the land. There is no instance of any ruler in the past, whether Hindu or Muhammadan, who took as land revenue so small a share of agricultural produce.

The Laws of Manu permitted the King to take "the eighth, sixth, or twelfth part of the crops," while a Kshatrya King, who, in times of distress, took even the fourth part of the crops, was not blamed.[1] There is a reference in Kautilya's *Arthshastra* to "taxes that are paid in the form of one-sixth of produce" (*shathbhag*).[2] The Muhammadan rulers of India sometimes took as much as half the gross produce of the land. Ala-ud-Din Khilji, according to Ferishta, 'ordered to tax equal to half the gross annual produce of the lands to be levied throughout the kingdom and to be regularly transmitted to the exchequer."[3] Akbar, the most enlightened Muhammadan ruler, fixed his demand at one-third of the value of the gross produce of the land.

It is estimated that the land revenue assessment of the area comprised in the present Jullundur District, according to statistics given in the *Ain*, must have been Rs 10¼ lakhs. The assessment imposed some 330 years later was 19.6 lakhs. The grain equivalents of the above assessments, calculated at the prices prevailing at the two periods, are 60,700 tons and 29,000 tons respectively.[4]

Why was so large a share of agricultural produce claimed by the Muhammadan kings?

The simplest answer is that given by Moreland: they were monsters in human form. He describes the regime under which the bulk of the Indian peasants lived during six centuries, from the foundation of the Muhammadan Empire, to the advent of British rule, as "rack-renting under the whip "[1]

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[1] VII, 130, X 120.

[2] Trs by Shamasastry, 112

[3] Trs. by Briggs, I, 346

[4] *Land Rev* by Fagan, 6

The Hindu kings in northern and central India may have been somewhat better, for peasants sometimes sought refuge in their territory when the oppression of Muhammadan rulers became intolerable.

This is a very gloomy picture of rural India under Indian rulers

It is however possible to explain, without assuming that our kings were merciless tyrants, why the land revenue represented such a large proportion of agricultural produce, and how the cultivator was able to pay it

1. It is well known that the land revenue was the principal, if not the only source of revenue in the past At the present time, other sources of income (particularly the income-tax and customs duties) are so important that the land revenue has ceased to be a source of Imperial revenue

2 In an article entitled *Akbar's Land Revenue System*, which appeared in J R. A. S for January 1918, Moreland and Yusuf Ali, the joint-authors, while discussing Akbar's cash rates, criticise Vincent Smith, and the point which they make is important enough to justify notice here. Vincent Smith says·

> " The revenue assessment was not light On the contrary, it was extremely severe. Abul Fazl expressly states that 'the best crops were taken into account in each year, and the year of the most abundant harvest accepted' His average crop rates seem really to have been 'selected rates', based on the average of the best fields, not on the average of the whole area in any given class of land. The meaning of the statement that 'the year of the most abundant harvest was accepted' is not clear to me, but, whatever its exact meaning may be, it implies a standard of assessment so high that large remissions must have been required in bad seasons "[2]

The principle of assessment expounded in the passage quoted above is in conflict with the statement in the *Ain*

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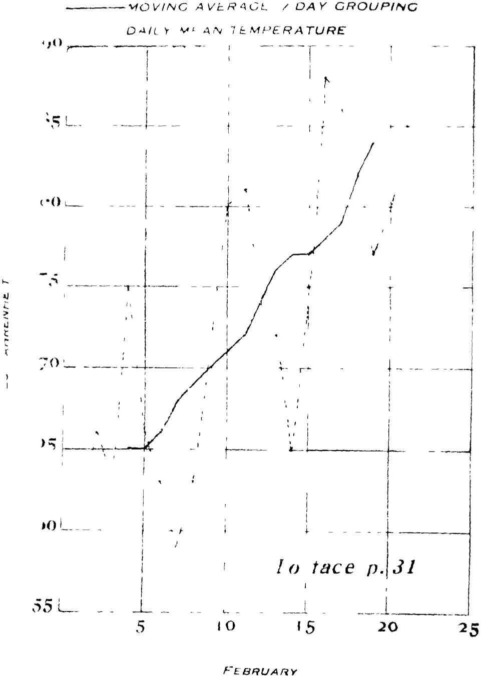
[1] Address to the Indian Section of the Royal Society of Arts, London. A summary of the paper was printed in the *C & M. G.* of Lahore, dated 1st April 1929

[2] *Akbar*, 377.

Chart I illustrating short-time fluctuations and general trend



To face p. 31

that "The ten years" assessments from the beginning of the 15th Ilahi to the 24th Ilahi were added together and the tenth part of the sum was fixed as the annual (assessment)" The joint authors point out that this conflict disappears if another reading of the original (India Office MSS 266 and 270) instead of that given in the printed text is preferred These two MSS have only "*Wa har sal jins-i-kamil afzun bud*" which means "and every year the superior crops extended " This reading, as is clear, does not mean that the rates were selected, "it merely states that as a result of their introduction the class of crops improved steadily," which would be a matter for satisfaction

Finally Moreland and Yusuf Ali conclude "Assuming a tolerably efficient administration, and rates reasonably adapted to local agricultural conditions, the system contained the elements of success "

The instructions to the Collector of Revenue show that the system was not worked with undue harshness, unless we suppose that these instructions were disregarded in practice. The *Amil* was to be "a friend of the agriculturist " He was to "assist the needy husbandman with advances of money and recover them gradually " He was to be "just and provident in his measurements," and to "always seek to satisfy the owner of the crops " When any damage occurred to the crops, he was to calculate the extent of the loss and to report it without delay to higher authorities One may suppose that this was done with the object of granting suitable remissions of revenue. The *Amil* was instructed to collect "the appropriate revenue" when there was "a full harvest,"[1] which also suggests that in bad years the full revenue was not demanded. This is recognised by the revenue expert Oldham[2], who has been quoted as an authority by

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[1] *Ain* II, 43-7. [2] *Memoir of the Ghazeepoor District, by W* Oldham, p 86

Vincent Smith Finally, the *Amil* was "to collect the revenue in an amicable manner and extend not the hand of demand out of season"

There is no suggestion in all this of peasants being forced to cultivate the land by the whip We have also to remember that Akbar's revenue system was only an improvement of Sher Shah's, and that its broad features must have remained unchanged during the reigns of his immediate successors

3 Akbar directly dealt with the actual tiller of the soil The *Amil* was instructed to deal differently "with each agriculturist", as the agricultural value of the land varied in different districts and certain soils were adapted to certain crops, and he was to stipulate that the husbandman himself brought the revenue

We have no reason to suppose that a class of landlords, as distinct from tenants did not exist then The farmer and the tenant are mentioned in the *Ain* (II, 47), and the right of property in land was recognised by the Government, for Abul Fazl distinctly refers to "possessors of property" in cultivated areas who "hold their lands by ancestral descent"[1] But in the great majority of cases the landowner must have been the actual tiller of the soil—a peasant proprietor in fact This may be inferred from the *ryotwari* nature of Akbar's settlement, and the absence of any reference in contemporary accounts to any class of landlords living on the rent of land, apart from the rulers of the country Akbar did not recognise the existence of the landlord class, probably because it was of insignificant importance. At the present time, the produce of the soil is shared among the cultivator, the landlord and the Government, in the time of Akbar and Jahangir it was shared between two parties only, the State and the cultivator This, as we shall see, is a point of great importance.

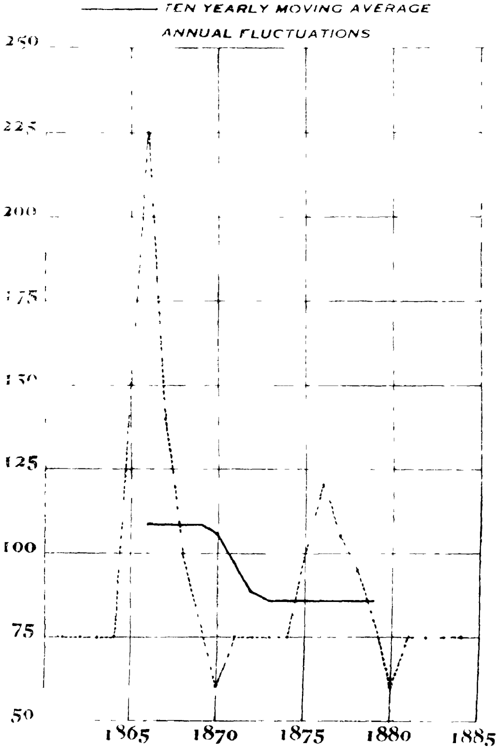

Chart II illustrating short time fluctuations and general trend

To face p. 32.

4. It will be admitted that excepting canal-irrigated areas, particularly in the canal colonies, the average yield of land under Akbar, when there was no lack of good land and the pressure of population on the soil was far less severe, must have been greater than at the present time. The medium produce of *polaj* land (average of good, middling and bad), in standard maunds, under Akbar was 12 Mds. 38½ srs of wheat and the same amount of rice, at the present time the outturn for the United Provinces (the tracts to which the figures given in the *Ain* relate) is wheat 12 Mds 31 srs and rice 10 Mds 13 srs[1]

It is, of course, difficult to compare the two yields, for we do not know how the *Ain*'s averages were obtained But even assuming that the fertility of land per acre has not decreased during the past 300 years or more, there is no doubt that the average outturn must have decreased with the extension of cultivation, and the bringing of less fertile land under the plough Further, only the best lands must have been cultivated then, for in the first place, the land revenue was heavy, and in the second place, it was not necessary to till inferior soil.

5. Moreland tells us that in the 17th century land was cultivated in small holdings by peasants[2] We do not know the average size of the holding then, but it must have been much larger than the average holding at the present time The reasons for this opinion are two (1) smaller numbers in the absolute sense were dependent on the land and (2) a smaller proportion of the total population was supported by the land

At the present time, in the Punjab, 56 per cent of the cultivators cultivate less than 5 acres, and excepting Bombay and Burma, all other provinces have much smaller areas per cultivator[3]. As regard owners, a special enquiry into more than 2000 villages scattered throughout the Punjab disclosed that 58 per cent of the holdings were of less than 5 acres As is well known, the decrease in the size of the holding is the result of the sub-division of holdings in accordance with our laws of inheritance The best example illustrating the effects of sub-division over a long period is that given by Dr. Man In 1771 the average size of the holding in a village in the Poona district was 40 acres, 144 years later, in 1915, sub-division had reduced it to no more than 7 acres The effects of sub-division which has continued for three or four hundred years can be easily imagined, and they are only too patent to the existing generation

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[1] *Prices Report*, 1914, pp 69-70

[2] Moreland II, p. 188

[3] *Report Agl. Com.*, 132-33

That the average size of the holding tends to decrease rapidly with the growth of numbers is also shown by the following figures [‡]

Average size of the holding in the Punjab The figures are based on returns showing the cultivating occupancy of the land for the quinquennial period ending 15th June 1922 and Rabi 1894.

	Acres 1894	*Acres* 1922
Hissar	12 4	7 7
Rohtak	4 6	3 0
Gurgaon	3 7	2 4
Karnal	4 7	3 1
Ambala	2 7	1 7
Simla	1 3	1 1
Kangra	2 1	1 2
Hoshiarpur	1 2	9
Jullundur	1 6	1 2
Ludhiana	2 9	2 1
Ferozepur	6 9	4 4
Lahore	5 0	3 6
Amritsar	2 0	1 6
Gurdaspur	1 9	1 3
Sialkot	1 9	1 2
Gujranwala	4 4	2 9
Gujrat	2 8	1 8
Shahpur	5 3	5 0
Jhelum	3 6	1 7
Rawalpindi	3 0	1 3
*Montgumery	6 7	10 6
Jhang	5 2	4 7

[‡] See *Land Rev Ad Report Punj.* for 1894 and 1925.

* Large increase in area under cultivation on account of canal irrigation

It will be seen that all over the Punjab (and the case of the Punjab is not exceptional), excepting districts where much new land has been brought under cultivation on account of canal irrigation, the average size of the holding, small as it is, tends to decrease with the growth of numbers

During the past three or four centuries, while more land has been brought under cultivation, it cannot be shown that the extension of cultivation has kept pace with the growth of numbers This may be inferred from the illustrations showing the decrease in the average size of the holding given above

It will therefore be admitted that, ignoring the land revenue, the cultivator of a *barani* or well-irrigated holding under Akbar was decidedly better off than the modern cultivator, for (1) he cultivated a larger holding and (2) the average yield of his holding was greater

A large cultivator may be able to bear tax burdens which would absolutely crush a small cultivator The cultivator under Akbar paid the value of ⅓rd of his gross produce as revenue, and still lived to cultivate the land It would be impossible for the cultivator of a holding of 2 or 3 acres to-day to pay the land revenue at Akbar's rate and still live

Further, we have so far assumed that the modern cultivator shares his produce only with the State This is true only in the case of the peasant proprietor But even in the Punjab, which is a land of small peasant proprietors, in the quinquennial period ending 15th June 1927, out of 29 7 million acres under cultivation, 16 5 million acres were held by tenants paying cash and grain rents. The figures for the United Provinces † for the year 1920-21 are as follows

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† *Land Rev Adm Report for* 1920 21

	Total area of holdings Million Acres.	Total cash and grain-rented land Million Acres.
Agra	28 5	21 9
Oudh	10 0	8 4

More than three-fourths of the land in the United Provinces is cultivated by tenants, and the position is not very different in Bengal Over a large part of Northern India, thus, land is no longer the property of the worker, and he no longer reaps the full reward of his labour

With the rise in the price of agricultural produce, and the decline of hand-industries, which has deprived large masses of the population of their time-old sources of livelihood, the demand for land has increased The result is seen in the rise in cash rents all over the country Rents to-day are no longer customary, but determined by competition

The evils of absentee-landlordism in Bengal and other parts of India are well known The abnormal rise in rents and arbitrary ejectment of tenants by landlords compelled the Government of India to enact tenancy legislation in the different provinces with the object of safeguarding the interests of tenants.

In the United Provinces cash rents predominate In the Punjab, in the quinquennial period ending 15th June 1927, tenants-at-will holding 9 9 million acres paid rent in kind with or without an addition in cash. The rate of *batai* varies from $\frac{1}{3}$ and $\frac{2}{5}$ to $\frac{1}{2}$, but often it is $\frac{1}{2}$

What *batai* means to the tenant may be illustrated by an example

In *Some Aspects of Batai Cultivation in the Lyallpur District of the Punjab* (publication of the Board of Economic Inquiry, Punjab, Rural Section), Mr Stewart publishes the results of his study of *batai* cultivation in the case of 18 tenants two of whom cultivated (in the year 1923-24)

1 square each and the others half-a-square each (25 killas=1 square, 1 killa=$1\frac{1}{9}$ acres) Of the gross produce of the land, half in each case was claimed by the landlord for granting the use of the land The land revenue and the water-rate were shared equally by the landlord and the tenant (Rs 5-8 per acre each) All other expenses of cultivation—the cost of seed, upkeep of bullocks and the cost of implements—were borne entirely by the tenant The accounts show that the net income of the landlord varied between Rs 25 and Rs 40 per acre, or Rs 30 on the average of all the tenants The gross income of the tenant was the same as that of the landlord, but his net income varied between Rs 14 and Rs 31 per acre, or an average of Rs 19-3 "Whilst the tenant profits on an average to the extent of Rs 19 per acre," remarks Mr Stewart, "the landlord reaps Rs 30"

The question that may be pertinently asked is whether such a tenant, even in a canal-irrigated area, is really better off than the cultivator owning his land 300 years ago, and paying the land revenue at Akbar's rate

It matters very little from the point of view of the tiller of the soil whether he hands over a large part of his produce to the State landlord or a private landlord He lives only on what is left with him

Private rent has arisen and developed under British rule This has undoubtedly enriched a very small class of the population Like the lilies in the field the landlord does not labour But how is the cultivator benefited by the substitution of a new exploiter, who owes him no duties, for an old, who, in theory, at any rate, was bound to take some interest in his welfare?

This aspect of the question is completely ignored by those who describe the land revenue demand of Akbar as "*extremely severe*" and the peasant as pitilessly oppressed, ready to escape from poverty and oppression by flight, or by the surrender of his personal freedom The cultivator to-day who pays ½ *batai*, in addition to his share of the land revenue, would gladly change places with the owner-cultivator of the past After paying the land revenue he would be left with more to eat than the *batai* tenant to-day, or the tenant paying rent representing the full economic value of the land. The owner-cultivator of the past was not rich, but he was more prosperous in normal years than the tenant-cultivator of to-day

Let us take an example Suppose wheat is the only crop grown, and that the amount of land cultivated is 10 acres The normal yield of wheat per acre in the Lyallpur District is 1200 lbs*, or 14 63 Mds The average yield of *polaj* land in the time of Akbar was 12 96 Mds The net income of two cultivators, one paying *batai* and the other land revenue at Akbar's rate, may be thus calculated

Batai tenant, Lyallpur	Rs	*Cultivator under Akbar*	Rs.
Land cultivated (canal-irrigated), 10 acres		Land cultivated (*barani*), 10 acres	
Yield of wheat per acre, 14 63 Mds		Yield of wheat per acre, 12 96 Mds	
Total yield, 146 3 Mds		Total yield, 129 6 Mds	
Value at Rs 5 per Md	732	Value at Rs 5 per Md ,	648
Fxpenses shared equally between the landlord and the tenant		Cost of cultivation	
		Land revenue	216
1 Land revenue and water rate at Rs 11 per acre	110	*Kamins*	50
		Seed	20
2 *Kamins*, Rs 5 per acre	50	Plough bullocks and implements	105
Total	160	Total cost	391
Net income of the landlord and gross income of the tenant, each	286	Net income of the cultivator	257
Expenses borne entirely by the tenant			
1 Seed, Rs 2 per acre	20		
2 Plough bullocks and implements, at Rs 10½ per acre	105		
Total	125		
Net income of tenant	161		

It is seen that Akbar's peasant would get substantially more to eat than the Lyallpur tenant.

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* *Season and Crop Report, Punjab*, 1927-28

The tenant, or the actual tiller of the soil, even in Lyallpur, the most prosperous district of a province which is agriculturally more prosperous than any other part of India, is poor For what does he earn ? Of the 18 tenants studied by Mr Stewart, two cultivating a square each (about 28 acres) earned a net income per day of Re 1-2-6 and Re. 1-0-5 Of the remaining 16 tenants, each cultivating half-a-square (about 14 acres), the daily net income of 8 varied between Re 0-5-3 and Re 0-9-1. that of the other 8 tenants exceeded 10 annas, but was less than a rupee The average income of all the tenants, as we have seen, for the whole year (1st June 1923 to 31st May 1924) was Rs 19-3 *

A cultivator of 14 acres in a canal colony would not be regarded as a very unfortunate person The income from an irrigated acre is greater than that from an unirrigated acre, but even in the Punjab, where canal irrigation has been most developed, of the 29 47 million acres sown in 1927-28, 15 29 million acres were unirrigated (16 46 million acres in 1926-27 and 18 75 million acres in 1924-25) Further, as we have seen, 56 per cent of the cultivators' holdings in the Punjab are of less than 5 acres. Assume now that the average income per acre, taking both irrigated and unirrigated land, is not less than Rs 19-3 Then the cultivator of a 5 acre holding, paying *batai* or cash rent, does not earn in a normal year more than Rs 96 as the net reward of his labour, and those cultivating less land earn less This is equal to Rs 8 a month, or a little more than 4 annas a day

Attention is naturally drawn by official writers to the great increase in agricultural production owing to the improvement of agriculture and the development of canal irrigation But mere increase in production is not a reliable index of the economic position of a community, and particularly of poor groups of persons The position of individual members of a community is better indicated by *per capita* income, and it is materially affected by the distribution of income

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* *Some Aspects of Batai Cultivation*, p. 24.

An attempt may now be made to determine the level of per capita agricultural income in the Punjab, taking the landlord, the tenant and the agricultural labourer together.

We shall limit our enquiry to those dependent on ordinary cultivation They form about 57 per cent of the total population of British Punjab and over 97 per cent of the total number of those dependent on pasture and agriculture in this Province The enquiry is interesting not merely from the provincial but from a more general point of view, for the net per capita income of cultivators in other parts of India cannot be much higher, and is probably lower than that of the same class in the Punjab

Those dependent on ordinary cultivation include the following classes

	Number, according to the census of 1921
1 Income from rent of agricultural land	686,423
2. Ordinary cultivators	9,923,765
3. Agents, managers of landed estates (not planters), rent collectors, clerks etc	11,261
4. Farm servants	391,665
5 Field labourers	548,818
Total	11,756,932

The annual *Season and Crop Report* for the Punjab, an official publication, contains a most interesting table, giving the approximate value of the principle crops grown by ordinary cultivators These crops are wheat, barley, rice, maize, *juwar*, *bajra*, oil-seeds, sugar, cotton (both *Desi* and American) and fodder The total approximate value of these crops in 1927-28 was Rs 82 crores and in 1926-27, 91 1 crores We might, of course, make agricultural production in 1927-28 or 1926-27 the starting point of our investigation But climatic conditions in these years were not very favourable Cotton, one of the principal crops in the Canal Colonies, largely failed in 1926-27, and the wheat crop was below the normal in 1927-28 The prices of agricultural produce were also generally low The year 1925-26 was a more normal year The prices were higher and there was a record acreage under cotton, the most valuable crop of the Province after wheat

The total area sown in 1925-26, both irrigated and unirrigated, was 29 71 million acres, of which the principal crops account for 27 6 million acres The approximate value of the principal crops in 1925-26 was 96 8 crores

The Director of Land Records, while commenting on the estimated value of the principal crops in 1922-23, pointed out that the figure of yield in the case of wheat, on which the value of the wheat crop in 1922-23 was based, was probably an under-estimate The actual yield may have been 33 per cent greater It is possible that the figure representing the value of the wheat crop in 1925-26 is also an under-estimate Adding ⅓rd of the estimated value (37 4 crores) we get 49 9 crores as the approximate value of the wheat crop in 1925-26 The total estimated value of the principal crops in 1925-26 was thus 109·3 crores:—

Crop 1925 26	Estimated value. Crores
Wheat	19 9
Barley	2 1
Rice	4 6
Maize	3 8
Bajra	3 8
Juwar	1 3
Gram	8 6
Oil seeds	3 2
Sugar (raw)	6 0
Cotton (*Desi* and American)	14 9
Fodder	11 1
Total	109 3

This estimate does not include the value of *bhusa*, which is an important item in the case of wheat. The proportion which *bhusa* represents of the total value of the crop may be taken to ¼ for wheat and about ⅛ for barley, gram, juwar, bajra and maize The total value of *bhusa* of the cereals mentioned may be estimated at 15 crores in 1925-26

Besides the principal crops the following crops of minor importance are grown in the Punjab ragi or mandwa and other cereals, mung, moth and other pulses, miscellaneous food crops, tobacco and other narcotics, condiments and spices, indigo and other dyes, tea, orchards and garden produce. The area under these crops in 1925-26 amounted to a little more than 2 million acres out of a total of 29·7 million acres sown We may neglect the area under condiments and spices, dyes, tea and garden produce (total of 356,943, acres), for the growers of these crops are not included under ordinary cultivators (they are classed separately under sub-order (*b*) of the main head, Pasture and Agriculture growers of special products and market gardening) This leaves 1 75 million acres for the minor crops If we assume that the average value of these crops per acre is the same as that of the principal crops (it will probably be less), the total approximate value of the minor crops grown on 1 75 million acres amounts to 7 1 crores The total gross value of all the crops including fodder and *bhusa* thus amounted to 131 4 crores

Crops, 1925-26	Value, in crores
Principal crops	109 3
Bhusa	15 0
Minor crops	7·1
Total	131 4

This is gross income A substantial portion of this income is lost in the upkeep of bullocks, in the form of seed, and payments to Government in the shape of land revenue and water-rate The actual income which the cultivators enjoy must be considerably less than 131 4 crores

The amount of certain payments which the cultivators have to make is definitely known, that of others we shall try to estimate

In the first place, the total land revenue demand, "practically the whole of which was collected without difficulty", amounted to about Rs 457 lakhs in 1925-26. The direct receipts on account of irrigation in the same year amounted to 4 4 crores, or a total of 8 97 crores claimed by the Government The water rate is the cost of canal water, we have still to estimate the cost of well-water used for irrigation purposes In 1925-26 the area irrigated by wells in the Punjab amounted to 3 7 million acres It is well known that the cost of irrigation from canals is only a fraction of that from wells, which explains why well-irrigation has been superseded by canal irrigation in areas formerly dependent on wells.

The Agricultural Commission estimated the cost of well irrigation at Rs 22 per acre† The cost of water, then, for 3 7 million acres under well irrigation at Rs 22 per acre amounted to 8 14 crores

Seed in the case of irrigated crops may be taken to cost on an average Rs 2 per acre This is the figure suggested by Mr Stewart in *Some Aspects of Batai Cultivation* (1926). In his *Farm Accounts* published in 1928 Mr. Stewart estimates the cost of seed, where normal intensity of cropping is followed, at Rs 2-4 per acre "Where improved varieties of seed are sown, and some sugar-cane is grown," he says, "seed averages about Rs 2-8" For unirrigated crops the cost of seed may be taken to be Re 1-8 per acre The total of seed for 13 7 million acres irrigated and 16 6 million acres unirrigated thus amounts to 5 11 crores There finally remains the cost of upkeep of bullocks and that of agricultural implements. The cost of bullock-labour must vary a great deal in different parts of the Province and under different methods of cultivation Mr Stewart estimates that under direct cultivation bullock-labour costs about Rs 17 per acre of holding, in the case of tenants, where special attention is not paid to the feeding of the bullocks, the cost averages from Rs 9 to Rs 10 per acre on batai cultivation. We might take the cost of bullock-labour for the Province as a whole to be Rs 9½ per acre and the cost of implements, represented as an annual payment, Re. 1 per acre, or a total of Rs. 10½ for bullock labour and implements This is, again, probably an under-estimate. Mr. Bhalla, for example, in his *Report on the Economic Survey of the Bairampur village* in the Hoshiarpur District, estimates the cost of upkeep of bullocks and implements at Rs. 10-14 per acre annually. At Rs. 10-8 per acre bullock-labour and implements represent a deduction of 30 87 crores from the gross value of the produce.

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† *Report*, p 343 *n*.

The total cost of cultivation in 1925-26 thus amounted to 53 99 crores

Cost of Cultivation, 1925-26.

	Crores
Land revenue	5 47
Water rate	4 4
Well irrigation	8 14
Seed	5 11
Plough bullocks and implements	30 87
Total cost	53 99

Deducting the cost from the gross income we get 77 4 crores as the total net income of those dependent on ordinary cultivation in 1925-26

Dividing the net income by the number of those who earned it (11,756,932) we get Rs 66 4 as their net per capita income in 1925-26

Of the 11,756,932 agriculturists, 3,860,900 were actual workers and 7,896,032 dependents. A total net income of Rs 77 4 crores means an income of Rs 199 2 per worker with two dependents, or a monthly income of Rs 16 6, or a daily income of about 9 annas This is the average daily income of a group of 3, ignoring the unfair distribution of income which the existence of the landlord implies

These figures are not exact They are approximate figures, but as such they may be accepted as a basis for discussion The margin of error, however, is not very wide As regards income, the value of minor crops may have been over-estimated to the extent of about a crore, and of *bhusa* to the extent of another crore As for cost, possibly that of well irrigation, taken at Rs 22 per acre suggested by Agricultural Commission, is too high. If we take this cost to be not more than Rs. 16 per acre, there is a saving of a little more than 2 crores On the other hand, seed for irrigated crops perhaps costs on an average 4 annas more per acre, which increases the cost of seed by 35 lakhs. and if bullock-labour on an average cost Rs 10 per acre instead of Rs 9¼, there would be an addition to cost of about Rs 1½ crores On the whole our estimates of income and cost are fairly reliable, allowing a margin, say, of 5 per cent for error

The average income of the agricultural worker, with two dependents, in the Punjab, is thus found to be 9 annas daily This is his net income *from agriculture* not his total income The field labourer is often able to add to his income in the slack season by working as unskilled labourer in a neighbouring town or on a railway station, or in a rural factory industry Small cultivators sometimes earn a little money by plying the *gadda* for hire Rural industries, such as rope-making, sericulture, and to a smaller extent, spinning and weaving, and animal husbandry are also a subsidiary source of income There, is further, an addition to the family income in the form of remittances from members of the family who are serving in the army or employed in non-agricultural occupations in the towns, or have emigrated and settled in foreign countries.

For want of reliable data it is impossible to estimate the income of the agricultural worker from non-agricultural sources, and any figure that may be suggested would be a mere guess, more likely to be wrong than right It is for this reason that the present discussion has been limited to facts which can be more or less definitely ascertained

It is however certain that agriculture is the main source of income in the case of the great majority of those dependent on ordinary cultivation Rope-making, spinning or weaving are not the profession of ordinary cultivators In most cases these subsidiary industries satisfy, to a small extent, the requirements of the family, and represent little addition in terms of money to the net income of the agriculturist Most agriculturists possess one or two cows or buffaloes But so far as income from the sale of *ghee* or milk is concerned, the cultivators as a class must share it with cattle and buffalo breeders and keepers, who are not included among those dependent on ordinary cultivation and form a separate group [sub-order (d) of Pasture and Agriculture raising of farm stock]

It will be seen that while the aggregate wealth produced by the Punjab cultivators every year is considerable, the level of per capita agricultural income is low

Certain important conclusions regarding the causes of the poverty of the peasant are suggested by the foregoing discussion

A Money Lenders' Registration Bill was introduced in the Punjab Legislative Council in November 1924, which gave rise to a bitter controversy In the statement of Objects and Reasons it was attempted to show that indebtedness was one of the main causes of the poverty of the Punjab cultivator This belief is widespread More recently a speaker at Calcutta likened the people to sheep and the Mahajan to a wolf "When the Mahajan sickens and dies," he said, "the sheep will fatten and live "

The Mahajan is not a lovable person, and the cultivator deserves all the protection that the law can give him in his dealings with the Mahajan But it is incorrect to say that the Mahajan is responsible for the poverty of the cultivator We have seen that the net per capita income of those dependent on ordinary cultivation in 1925-26 was 66 4 Rs., and that the daily income of the agricultural worker, with 2 dependents, was 9 annas—*without making any deduction on account of interest payments to the Mahajan.* In estimating the cost of bullock-labour or of well irrigation, interest on capital cost would have to be allowed, even if money was not borrowed for the purpose Mr Stewart assumes 8 per cent interest on capital and Mr Bhalla 9 per cent, and these rates are not excessive Some interest is therefore included in my estimate of cost In addition, the cultivator pays to the Mahajan 4 or 5 crores annually The whole of this sum was not included in the estimate of cost as obviously interest on money borrowed for the celebration of marriages or other ceremonies, or for other purposes not connected with agriculture, is not a part of cost of cultivation The point which may be noted is that even if we ignore the Mahajan altogether, the agricultural worker on an average earns very little Even if he were, by a Government decree, entirely freed from debt, he would remain as poor as he is to-day Great things are expected from the development of co-operative credit in this Province and the rest of India At the present time about 89 per cent of the rural families in the Punjab are unaffected by the co-operative movement, but suppose within the next 25 or 50 years the ideal of a co-operative credit society in each village is attained Co-operation would save the cultivator from the clutches of the Mahajan, but if the real causes of the poverty of the cultivator continue to work unchecked, it is certain that the level of per capita agricultural income will not only not increase but tend to fall

The chief cause of the poverty of the cultivator in the Punjab, as in the rest of India, is the excessive numbers dependent on agriculture.

It will perhaps be said that the present position is due to the fault of the people themselves They multiply so fast! Mr. Darling in the concluding Chapter of his

Punjab Peasant while discussing the population problem, quotes Malthus and says "The root cause of India's poverty could hardly be better expressed, for it has long been the custom to follow the first impulse of nature and marry as near the age of puberty as possible. The awe-inspiring result is the addition of over 100 millions in 50 years".[1] And he explains in a footnote that the population of India rose from 206 millions in 1872 to 319 millions in 1921, an increase of no less than 113 millions!

It must be admitted that almost every one in India marries and marries early, and that our birth-rate is one of the highest in the world The population of India tends to increase rapidly, and for this our social and religious customs are responsible, which can be reconciled neither with the teachings of economic science nor with common-sense. But it is the gravest of errors to suppose that the population of India does, as a matter of fact, increase rapidly. If the birth-rate in India is high, the death-rate is also high The movement of population is controlled by disease to an extent unknown in Europe or America. Plague and fevers have ruthlessly relieved the pressure of population on the soil. The real increase of population between 1872 and 1921 was not over 100 millions as Mr Darling supposes 113 millions was the nominal increase, not making any allowance for additions of territory at each census and improvements in the methods of enumeration. The *real* increase was only 54 millions, or 20 per cent[2] During the same period the population of Europe (India may well be compared with a Continent rather than a single country) increased from 307 7 to 449·7 millions, an increase of 46 per cent—more than double our rate of increase. The rate of growth in India is slower than that of the leading countries of Europe, with the sole exception of France.

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[1] P. 287.

[2] See Census of India, 1921, I, 7,

CHAPTER III

THE MERCHANT

The foreign trade of a country is a very good index of the economic activities of the people Agriculture is the main occupation of the people of India. this is shown not only by the occupational census of India held every ten years, but by the character of our foreign trade In the year 1927-28, 71 per cent of our exports consisted of articles of food and drink and raw materials, while about 73 per cent of our imports represented articles wholly or mainly manufactured Further, while both imports and exports have much increased during the past 50 years, the character of our foreign trade has remained unchanged

The character of our foreign trade in the 16th and 17th centuries was essentially different The bulk of the exports consisted of cotton manufactures, the imports chiefly consisted of gold and silver, a few articles of luxury and fancy goods meant for the rich, and spices

Let us first consider the imports In his *Remonstrantie* or report on Surat, dated 22nd October 1615, Pieter Gielis van Ravesteijn gives an interesting list of articles imported for Akbar from England His object was to indicate to the authorities in Holland the nature of the demand for foreign goods at the Court The list includes fine swords and knives which will cut through iron, satin and velvet of various colours ("but no black," for Van Ravesteijn thought they could not be sold at a profit), fine woollen cloth, green, yellow and crimson, 3 or 4 pieces of men's and women's clothing, each of a different fashion; all kinds of oil paintings, landscapes as well as portraits ; a small quantity of perfumed leather; mirrors of full man's size; parrots, cockatoos and other pet birds, Japanese weapons, ornamented copper candle stands; ornamented, genuine glass, and table service inlaid with gold, 3 or 4 watches (hour-glasses) of metal and crystal, breast plates, arms such as spikes, and matchlocks

And Van Ravesteijn added "Various other curiosities, not of great value, would be welcome, and 5 or 6 good sleuth-hounds and some powerful hunting dogs, who would not be afraid of fighting leopards and tigers"[1]

The imports into the principal ports on the Coromandal coast, *viz*, Tegnapatam or Pulicat, Petapoly (Nizampatam) and Masulipatam, where the Dutch had factories, were as follows pepper, mace, nutmegs, cloves, sandalwood, aloes-wood, lead, sulphur, alum, raw silk from Aitchyn and from China, twisted silk from China, silk manufactures "but little in demand", musk, vermillion, quicksilver, camphor from China as well as from Borneo (but the latter was most in demand), tin, crimson woollen cloth, crimson kerseys Chinese rolled damask, Chinese gold wire, tinsel, tortoise-shell, rubies, Chinese lacquer-work and some fancy goods There was some demand for porcelain in Petapoly, which is explained by the presence of Persian merchants "who eat from porcelain-ware, but not the Hindus" [2] If we add gold and silver, and horses from Iraq and Arabia, we have a fairly complete picture of imports into India three or four centuries ago

It will be seen that with the exception of spices and one or two other articles, the imports chiefly consisted of articles of luxury meant for the rich According to Moreland, "the masses of Indian consumers were too poor to buy imported goods" [3] But the masses of consumers, whether in India or elsewhere, are always too poor to buy imported articles of luxury. The character of the import trade is explained by the self-sufficient character of India of the past. The terrible machines which have transformed European industry and ruined Indian weavers and other hand-workers, had not yet been invented, and our craftsmen were unbeaten in their art. In the year 1913-14, imports of cotton piece-goods into India amounted to 3,197 million yards, as compared with Indian mill-production of 1,164 million yards The explanation of these and other heavy imports of manufactured goods to-day is that the hand-worker is unable to compete with power-driven machinery, and that India has ceased to be self-sufficient in regard to the supply of manufactures—not that the masses of Indian consumers now roll in wealth.

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[1] Terpstra, *Westerkwartieren*, 215 [2] Schorer's account of the Coromandal coast dated 1616

[3] *From Akbar to Aurangzeb*, p. 53.

It has been said above that cotton goods formed the bulk of our exports in the 16th and 17th centuries. Cotton weaving was one of the main occupations of the people, and as an industry it was even more important than agriculture, for while agriculture supplied the needs of the population (exports of agricultural produce were for the most part unimportant), the cotton industry produced cloth not only sufficient to clothe the masses of India but for export.

The whole world was a market for the products of this national industry.

Cotton weaving is a very ancient Indian industry. From the accounts of the Greeks who accompanied Alexander the Great on his expedition to India it appears that the art of weaving was highly developed in India in the 4th century before Christ, and produced the finest goods.[1] Cotton goods were exported to Greece where they were known as Gangetika.[2] From very early times then, down to the 16th and 17th centuries, the industry continued to grow and prosper, nor did its growth and prosperity cease under the Moghul Kings.

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[1] Lassen I, 295. [2] Ibid II, 24.

The importance of the exports of cotton goods may be judged from the following very few references to the trade (selected from a great many) in the accounts of contemporary European travellers

Duarte Barbosa (Portuguese) thus refers to the ships from Cambay that he saw (1514) at Aden "And these ships of Cambay are so many and so large, and with so much merchandise, that it is a terrible thing to think of so great an expenditure of cotton stuffs as they bring"[1]

Barbosa mentions the sacking of Mombasa by the Portuguese a few years earlier (15th August 1505) A fuller account based on original sources is given in a recent publication.[2] When the invaders stormed the King's palace, they found there large quantities of cotton goods from Cambay which, says Huemmerich, provided clothing for the whole of the East African coast

Cotton goods were made all over India, but there were three great centres of the export trade Cambay supplied places to the west of India, countries to the east were supplied from Coromandal and Bengal. The importance of exports from the Coromandal coast may be judged from the following statement contained in a letter dated June 1612 from Hendrik Brauwer (later Dutch Governor-General) to the Directors of the Dutch East India Company. "The coast of Coromandal is the left arm of the Moluccas and the islands round about, because without cloth imported from Coromandal, trade would be dead in the Moluccas."[3]

The demand for cotton goods made on the Coromandal coast was not limited to the places in the East frequently mentioned in the early Dutch reports, *viz.*, Atechyn, Priaman, Queda, Perae, Sumatra, Java, Malaya, Patane, the Moluccas, Banda, Borneo, Celebes, Solor, Borerœ, Bantam, Amboina, Siam, Pegu, Tenasearim, and Arakan It was wider A Resolution of the General Council at Bantam, dated 3rd December 1610, refers to "cloth and other goods which have been ordered from the coast of Coromandal for the Moluccas, Java and the Fatherland"[1] Already in 1610 there was a keen demand in Holland for Indian goods

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[1] *The Coasts of East Africa and Malabar* 28

[2] Huemmerich, 61.

[3] Heeres, *Bijdragen* 154

In one of the earliest MS accounts of the east coast, for the year 1607-08, preserved in the Dutch Records Office at The Hague,[2] there is another interesting reference to cotton goods It appears that the Dutch experienced difficulty in buying red cotton cloth through the usual middlemen in Petapoly, the reason being, that the trade was controlled by the King of Golcanda, in whose jurisdiction Petapoly lay, who had agreed to supply the King of Persia every year for his army several thousand pieces of red cotton stuffs. The goods must have been exported to Persia by sea

Nor was the demand for our cotton goods less keen in England The exports to England grew rapidly in the first quarter of the 17th century, and demand was limited only by the want of funds Indian calicoes were popular in England and replaced the more expensive linens imported from Holland and Germany. The conversation which the Deputy Governor (Morris Abbot) and Thomas Mun had with King James and which Abbot reported to the East India Company in August 1623, is reproduced in *English Factories*, 1624-29[3] The King asked "what vent they had for the greate masse of callicœs [that] came yerelye. They answered that much of it is very usefull and vendes in England, whereby the prizes of lawnes, cambrickes, and other linnen cloth are brought downe, for the rest England is now made the staple for that comoditie, which having first served His Majestie's dominions, the overplus is transported into forrayne partes in the nature of a home bredd commoditie The King approoved exceedingly thereof, and said this was the ready way to bring treasure into his kingdome."[1] On March 30, 1625, Abbot, who had now become Governor, told a General Court that "the commodities of Zuratt doe vend heer much better than in former tymes for example, callicoes hath found such vent in forreyne parts as if the Company had 100,000 or 200,000 peeces they wold bee uttered in short time."

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[1] Terpstra, *Koromandal*, 173

[2] Kol. Arch No 961 (Dutch Letters Received)

[3] P xxvi.

The few extracts given above are sufficient to show the importance of cotton goods in our foreign trade, and of the weaving industry in giving employment to our workers

Among other articles of export indigo was of some importance, the method of its manufacture has been described by Pelsaert, W G de Jongh and Van Twist. Cotton yarn was exported from the Coromandal coast In Masulipatam there was a great quantity of iron and steel, which also figured among the exports from the East coast[1] Among the articles of trade in Gujrat mentioned by Twist, in addition to cotton goods and indigo, we find opium, *hing*, lac, myrobolams, gambier, drugs, precious stones, and alabaster and marble. Rice was exported from Bengal.

Raw silk has been mentioned above among imports. The Indian silk industry depended upon imported raw materials, and Gujrat was one of its important centres. Twist mentions silk goods of various colours and designs, and goods of mixed cotton and silk[1]

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[1] **Terpstra, *Koromandal*, 176**

We may next briefly notice the nature of India's balance of trade in those days

As at the present time, exports much exceeded imports in value But our favourable balance of trade is now a sign of our debtor position The Home charges amount to £30 millions annually, this is expenditure charged to the revenues of India Apart from the Home charges, there is an annual drain from India of profits of important industries, which are a monopoly of, or controlled by foreign capital, as tea, coffee, rubber, petroleum, jute, coal and others of less importance In addition, invisible imports in the shape of the services of foreign shippers, bankers and commission agents have to be paid for. While the balance of trade is generally in our favour, the balance of payments is against us, and we pay our debts abroad by exporting goods greater in value than that of goods imported If the balance of trade turned against us, we should simply become a bankrupt country

The situation was different in the past The demand for our manufactures was keen in the markets of the world, while our demand for the manufactures of other countries was so small as to be negligible Indian produce was exported in Indian ships manned by Indian sailors, and the natives of the country largely earned the profits from exchange and the provision of credit needed for trade Not only the balance of trade but the balance of payments was heavily in our favour In other words, India was a creditor country, and the world paid her tribute in silver and gold

Van Twist in his Chapter on the wealth of the kings of Hindustan explains that although there were no gold or silver mines in India, large quantities of both were imported from foreign countries, and that it was forbidden to export them. "India is rich in silver," wrote Hawkins, "for all nations bring coyne and carry away commodities for the same, and this coyne is burried in India and goeth not out."[1] Terry estimates that an Indian ship returning from the Red Sea was "usually worth two hundred thousand pounds sterling, most of it in gold and silver," "Besides," he adds, "for what quantity of monies comes out of Europe by other means into India, I cannot answer, this I am sure of that many silver streames runne thither as all rivers to the sea, and there stay, it being lawful for any nation to bring in silver and fetch commodities, but a crime not less then capitall to carry any great summe thence."[2] Mandelslo also noted that it was 'prohibited, upon pain of death, that any should transport either Gold, Silver, or coined Brass out of the Country "[3]

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[1] P. 25

It would seem that our Moghul Kings held Mercantilist views on the subject of gold and silver, but who will say that they did not show good sense in encouraging the export of commodities and in discouraging the export of gold and silver? Wealth does not consist in barren metal, but it would be difficult to show that heavy Home Charges and the constant drain of profits of important industries from a country tend to enrich that country

Our large and profitable foreign commerce, which made streams of gold and silver flow from many parts of the world to our country, suggests the existence of a numerous and wealthy merchant class For where did this gold and silver go, if it did not go out again? The greatest part of the profits of foreign trade must have been earned by Indian merchants, unless we suppose that as soon as ships bringing gold and silver from the Red Sea and other foreign ports arrived in an Indian harbour, they were seized in the King's name and the money which they brought was added to the King's treasure.

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[1] Foster 112. [2] Foster, 302. [3] *Travels into the Indies*, 68.

These merchants would form a middle class between the common labourer and the artisan on the one side and the nobles on the other A rich and influential middle class, engaged in trade and commerce, must have then existed under Akbar and Jahangir

Moreland's conclusion is different. He says "In the book to which I have already referred (*India at the Death of Akbar*) I arrived at the conclusion that at the opening of the 17th century, the population of India consisted of a small but extremely wealthy and extravagant upper class, a small and frugal middle class, and a very numerous lower class, living generally on the same plane of poverty as now, but on the whole substantially worse off."[1] And he adds that in the literature relating to his period he has not found "a single suggestion tending to invalidate the inferences already drawn" while he has "found much to confirm them" While discussing the economic influence of administration he goes so far as to say that "India of the 17th century must have been an Inferno for the ordinary man." [2]

Now there are many references in the sources which Moreland has consulted which invalidate his conclusions Moreland has either ignored them or they have escaped his attention, with the result that the evidence that he has presented to the reader creates an impression of economic India in the 17th century which is unfavourable in the extreme. As a matter of fact, no worse impression could have been created if Moreland had deliberately set himself the task of painting our Moghul Kings in the darkest colours possible

Apart from relevant evidence ignored by Moreland he sometimes misinterprets evidence. We have seen that, according to Pelsaert, craftsmen ate *khichri* with butter The eating of *khichri* is accepted by Moreland as a proof of the extreme poverty and miserable condition of the artisan class under Jahangir. Well, the "dyett" of Peter Mundy at Surat, at the end of 1628, naturally, consisted for the most part of food cooked in the English style, but, he says "Sometimes we have this Country wild fowle, Antelops, and perchance wilde boare, but ordinarilie wee have dopeage (*dopiyaza*) and Rice, Kercheere (*khichri*), and *achare* or pickled Manges (mangoes)"[1] We have also seen that when attempting to show that wages in the time of Jahangir were the same as in that of Akbar, Moreland quietly assumes that 4-7 pice earned by the labourer and 12-13 pice earned by the artisan under Jahangir were equal to 2-3 *dams* paid to the labourer and 6-7 *dams* to the artisan in the time of Akbar[2]

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[1] Moreland II, 197-8 [2] Ibid. 232.

We have seen that there is much evidence, of indisputable value, to show that the common labourer in the time of Jahangir got substantially more to eat than the common labourer in Lahore to-day.

Similarly there is some convincing evidence, which Moreland has ignored, to show that a numerous and wealthy middle class, consisting of merchants and traders, existed in the 17th century.

"The heathenish Indians that dwell in Goa," says Linschoten, "are verie rich Merchants, and traffique much"[3] ("very rich and substantial merchants" according to the Dutch Text)[4] He describes their shops full of silks, satins, damasks, porcelain from China and velvet, as well as linen, shirts and ready-made clothes for all sorts of people. There were also in Goa Banias who sold all kinds of precious stones, silversmiths and goldsmiths, and dealers in ordinary wares.

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[1] Mundy *Travels*, 27-28

[2] Moreland's error is curious It has been pointed out before that about 55 pice were reckoned to the rupee at Agra in 1637, the year to which these wages relate But even if we assume that wages in the time of Jahangir, converted into dams, were the same as in the time of Akbar, *they would represent a greater value*, for the dam had risen from 1/40 to 1/30 of a rupee 2 dams of Jahangir would therefore be equal to 2⅔ dams of Akbar and 6 dams equal to 8 dams

Trs 228. [4] "Veel rijck ende treffelijcke Cooplieden" Ed. 1910, 153.

A Dutch report on Masulipatam, dated 1602, in which the people are described as "very rich"[1] has been quoted above.

A Dutch fleet of 12 ships, under Admiral Steven van der Hagen, sailed from the Texel on 18 Dec. 1603 and visited the coast of Malabar in Oct 1604 In the journal of the voyage the people of Calicut are described as yellow in complexion "going about with much gold hanging in their ears"[2]

A Dutch factor Pieter Willemssen, in his report on the Bay of Bengal and Arakan, dated 25 May, 1618, recommended to the authorities in Holland the establishment of a factory (*contoor*) in Chatigam, capital of Portogrande, which belonged to the King of Portugal, for buying indigo from "Benjanen" and "Keteris" who flocked there from Indostan, Lahore, Agra, Delhi and other places He thought that when the Portuguese had been driven away, the Banias "who are great and powerful merchants"[3] would be able to supply large quantities of indigo to the Dutch

In his report on Surat, dated 22 Oct 1615, Pieter Gielis van Ravesteijn says "The principal merchants are Banias [possessed] of great wealth"[4]

The Banias of Gujrat are thus described by W. G. de Jongh in the Gujrat report dated 1628 or 1629·

> One finds the banias all along the coast, that is in Goa, Coromandal, and Bengal, making a living by trade On the other side they are found in Persia, Ormus, Gomeron, Dieu, Dabol, up to Mocha who, like the others mentioned before, live by trade Many of them are brokers ..Among these banias there are many substantial merchants who do a great amount of trade, so

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[1] Opkomst III, 151.

[2] Opkomst III, 168 [3] Ibid. 290. [4] Terpstra, *Westerkwartieren*, 206.

that the largest trade and the best is carried on by them, and they do more trade than the Muhammadans. They are sharp business men and honest in payment Among them there are many money-changers, found in all places in these parts "[1]

We have also seen that Pietro Della Valle in his account of the West coast refers to the fruitfulness of the land and to "the very considerable gains of traffick wherein most men are imployed "[2]

This is the evidence of Dutch witnesses of our period regarding the economic position and importance of the Banias, the merchant class of India We should remember that the Banias were spread all over India One of the reports quoted above distinctly mentions Banias and Ketris from Lahore, Agra and Delhi, and the inference would be justified that all over India this numerous class of merchants took a large part in buying and selling Indian and foreign goods, and in organising and financing the internal and external trade of India, and thus shared in the profits of trade and commerce

The evidence of an English traveller, Finch, is of the same tenor He thus writes about Surat and Ahmadabad

Surat " The citie is of good quantitie, with many fair merchants houses therein "[3]

Ahmadabad " The buildings comparable to any citie in Asia or Africa, the streets large and well-paved, the trade great (for almost every ten dayes goe from hence two hundred coaches richly laden with merchandise for Cambaya), the merchants rich, the artificers excellent for carvings, paintings, inlayd workes, imbroydery with gold and silver "[4]

At Agra Finch noted that while the houses of "the common sort" were built of "mudde walls, covered with thatch," "the noblemens houses and merchants" were "built with brick and stone."[5]

There is a contemptuous reference in the protest of

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[1] Collection of the papers of W G de Jongh in the Dutch Records office at The Hague, No. 128 [2] *Travels* (Hak. Soc.) I, 42.

[3] Foster, 133. [4] Ibid, 173 [5] Ibid. 185.

Richard Boothby against the President and Council of Surat, dated April 1630, to Banian brokers and shroffs "of whom it is commonly spoken that they be Presidente and Cownsell and governe the Companies affaires at their pleasure—and who of nothinge, being poore and beggarly fellowes, have in short time raysed themselves to greate wealth and riches"[1]

There is nothing extraordinary in banias having "raysed themselves to greate wealth and riches" from a low position Moreland says about merchants that while "there were many rich men among them, their average income was probably not large," and he gives what he calls "a striking instance of the instability of commercial fortunes'——a daughter of a private citizen, who had constructed a reservoir at Surat, found herself later in much straitened circumstances[2]

The goddess of Fortune then, evidently, was not less fickel than she is now While she made some rich people poor, she also made, as the example of banias given above shows, some poor people very rich

One wonders whether Moreland's inference that the average income of merchants "was probably not large" is based on the remarkable example of instability of commercial fortunes quoted by him If many of the merchants of the period were rich, their average income would be large rather than small There is, of course, no reference in the sources, so far as the present writer has been able to discover, to the "average" income of merchants.

Moreland's remark that the merchants lived frugally and that "ostentation was as dangerous in their case as it was desirable in the case of courtiers" is of very limited application. As we shall presently see, not only the Muhammadan but Hindu merchants on the west coast lived and dressed well. Would a Hindu, who had accumulated much wealth, feel more secure on the coast under an irresponsible governor than in the capital of the kingdom? Both on the coast as well as in the interior, particularly in times of stress, cases of ill-treatment of rich and powerful merchants, who had incurred the displeasure of the authorities, might occur But from isolated instances it would be wrong to conclude that the authorities had made it a rule to plunder merchants as soon as they became rich and began to make a display of their riches We have seen that according to Finch the houses of merchants at Agra were made of brick and stone, like those of the nobles Evidently all merchants, whether living on the coast or in the interior, were not afraid of attracting attention by building pakka houses

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[1] *Eng Fact.* 1630-33, 17 [2] Moreland I, 264 and n.

Many of the "high and faire' houses in Cambay (Finch),[1] Surat, Ahmadabad and other places must have been owned by merchants

Barbosa thus described the food and clothing of the Hindus of Gujrat (largely Bania) in 1514

> "The Gentiles are brown people, well-built and of good proportions, smart in their dress, and delicate and temperate in their food Their victuals are milk, butter, sugar, rice, preserves of many kinds, many fruits, bread, vegetables and field herbs, they have all gardens and orchards wherever they live, and many pools of water where they bathe twice every day, both men and women They wear the hair very long like the women in Spain, and they wear it gathered on the top of the head and made into a band which is much adorned, and upon this a cap to fasten it, and they always wear many flowers stuck into their hair, and sweet smelling things They also anoint themselves with white sandal mixed with saffron and other scents, they are much given to fall in love They go bare, only covering themselves from the waist downwards with very rich silk stuffs, they wear embroidered shoes of very good leather, well worked, and some short silk skirts, and other short ones of cotton, with which they cover their bodies They do not carry arms, only some small knives garnished with gold and silver, for two reasons one because they are persons who make little use of arms, the other because the Moors forbid it to them They use many ear-rings of gold and jewellery in the ears, and many rings, and belts of gold and jwellery upon the cloths with which they gird themselves The women of these Gentiles have very

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[1] Foster, 174.

> pretty, delicate faces, and well-made bodies, a little dark Their dress is silk stuff like their husbands' as far as the feet, and jackets with narrow sleeves of silk stuff, open at the shoulders, and other silk cloths with which they cover themselves in the manner of morisco almalafas, their heads bare, the hair gathered up upon the head, they wear thick ankle rings of gold and silver on the legs, and rings on their toes, and large coral beads on their arms, with beads of gold filigree, and gold and silver bracelets, and round their necks, necklaces of gold and jwellery, fitting closely, they have large holes pierced in their ears, and in them rings of gold or silver large enough for an egg to pass through them They are modest women, and when they go out of their houses they are much covered up with their wraps over their heads "[1]

125 years later Van Twist again described the dress of the Hindu men and women of Gujrat, and his description differs only in unimportant particulars from that given above It seems that the men had adopted the Muhammadan *qaba*, a long white garment which Twist calls "cabaya." They wore shoes of red or black leather, and turbans of cotton or silk They bathed frequently and besmeared their bodies with sandal The women of the well-to-do, when going out, rode in carts or in "Pallancijns", they wore rings, necklaces and bracelets of gold or silver, those belonging to the lower classes, of glass [2]

In the following passage Barbosa describes a Hindu marriage

> "These Brahmans, and also the Banians, marry in our fashion, with one woman only, and only once. They make great feasts at their weddings, which last many days, and there are many people assembled at these, very well dressed and decked out These festivities are magnificent For the most part they are married when very young, both men and women, and on the day of the betrothal, and of the wedding, the couple are both of them seated on a platform, very much bedizened with gold and jwellery and precious stones, and in front of them is a small table with an idol covered with flowers, and many lighted oil lamps all round it The people make great rejoicings over them with their instruments and songs and dances, they let off many cannons, rockets and other fireworks to divert themselves "[3]

Van Twist gives a similar description of a Hindu marriage in Gujrat. The festivities started 14 days before the day fixed for the marriage and continued for another 14 days after it, with the customary noise of drums, cymbals and fifes. The manner of celebrating a marriage all over India to-day is very little different from the account given by Barbosa more than 400 years ago, and it may be doubted whether bania marriages in the 17th century were celebrated more economically or with less enthusiasm in any part of the country. A very old saying in Northern India is "What a bania earns he spends on building a house or on a marriage."

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[1] *Barbosa*, 52-3 [2] *Van Twist*, 29-31. [3] *Barbosa*, 54

Whether we consider the nature of the foreign commerce of India, or references by contemporary writers to the wealth of the merchant class, or their description of how the banias lived, dressed and married their children, the conclusion which emerges from our study is that a rich and prosperous class, spread all over the country and living on the profits of trade and commerce, existed in our period.

CHAPTER IV.

INDIAN SHIPPING

India is surrounded on three sides by the sea and she has also a long sea-board, but she has practically no mercantile marine. The proportion of the coasting trade which is carried in ships owned by Indians is comparatively small, while the number of Indian ships which take part in foreign trade is negligible According to certain witnesses who gave evidence before the Indian Mercantile Marine Committee (1923-24), 88-90 per cent of India's coastal trade and 98 per cent of her foreign trade is served by ships owned by non-Indians

A shipping industry in the modern sense does not exist in India It pre-supposes a highly developed steel industry, and India has just commenced to manufacture steel by modern methods But in the 16th and a large part of the 17th century a considerable portion of India's foreign and coasting trade was carried in Indian bottoms. Our kings, however, never paid much attention to the development of sea-power. When first the Portuguese, and then the Dutch and the English came to India, the Indian mercantile marine was wholly at their mercy Not merely peaceful competition but force and violence contributed to the decline of Indian shipping.

Moreland has discussed the effects of European competition on Indian shipping, and his explanation of the decline of Indian shipping and of the preference shown by Indian merchants for foreign vessels is so interesting that no apology is needed for quoting it in full. He says —

"The greater security offered by European vessels followed necessarily from the conditions which existed The essence of Indian navigation was adaptation to stable seasons and avoidance of bad weather, the ships were weakly built and their crews must often have been found wanting in experience during emergencies The Dutch and English ships were built to stand bad weather, their crews were trained in the storms of the North Sea and the English Channel, and men who had brought a ship safely round the Cape could be relied on to face the worst accidents of Indian waters Further, European ships were ordinarily better armed, and could defy attacks of pirates against which Indian ships were almost helpless , while, as has been said already, the Portuguese customs boats left the Dutch and English alone. The preference shown by Indian merchants was therefore justified , and while those of them who owned ships must have suffered from reduced freights, and presumably from shortage of cargo, the larger number, whose business required only the transit of goods, found it possible to transact their business more cheaply and with a greater degree of security " [1]

There are four main points in this explanation (1) European navigators were superior to Indian, and the extraordinary suggestion is made that while the essence of Indian navigation was adaptation to stable seasons and avoidance of bad weather, the seasons and bad weather were, apparently, objects of indifference to European navigators, (2) the Dutch and English ships were better built , (3) the Dutch and English ship-owners offered to Indian merchants (*a*) cheaper terms and (*b*) greater security.

This account, which has certainly the merit of originality, is in the main untrue It is misleading in so far as it ignores the principal cause of the decline of Indian shipping—force and violence.

(1) Moreland has produced no evidence in support of his view that the crews of Indian vessels " must often have been found wanting in experience during emergencies " For many centuries, before the arrival of European navigators in Indian waters, Indians had been carrying on the coasting as well as the over-seas trade It would be reasonable to suppose that Indian sea-captains or *Nakhudas* (a word frequently mentioned by Dutch writers, and in the *Dag Register*) and crews knew their seas well enough. Van Twist devotes a separate Chapter

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[1] Moreland II, 87-8.

in his book to Indian shipping, but there is not a word in this Chapter to suggest that Indian crews were found wanting in experience during emergencies—at any time or "often" If this failing of Indian crews were well known, it would have been mentioned by Linschoten, De Jongh, Pelsaert, Van Twist or Baldæus

Indian seamen were employed by the Dutch On the 4th of June 1629 the Dutch ship *Batavia*, under the command of Pelsaert, had been shipwrecked near the west coast of Australia, and when the yacht *Serdam* was sent from Batavia in July for bringing those who had been left behind by Pelsært, and saving the goods from the wreck, two Dutch and four Gujrat swimmers and divers went with the yacht [1]

Indian seamen were not afraid of putting to sea in bad weather Baldæus says —

> "Formerly the inhabitants of Suratte used to send yearly one or two Ships in May or June (when the Portuguese Ships were in harbour) to Achin, Tanasseri, Queda and the Maldive Islands, laden with Stuffs, and Cloths and Calicoes, and return'd with Pepper, Camphor, Cloves, Nutmegs, Mace, Sandel-wood, Porcelain, Chinese Silks (brought thither by those of Malacca), Tin, Benzoin, Elephants Teeth, and Coconuts, the last being almost the only product of the Maldive Isles." [2]

These ships set sail in May or June to avoid attacks by the Portuguese, who preferred to remain in harbour on account of the monsoon. May or June, after the monsoon had broken, would be the worst time to commence a voyage to Achin "Formerly" in the extract given above has a special meaning, which is discussed later in this Chapter.

The essence of Indian navigation, apart from such voyages, was, of course, adaptation to stable seasons and avoidance of bad weather, such was also the essence of Portuguese, Dutch and English navigation in Indian seas in the old days

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[1] Colenbrander V, 576-7

[2] *Malabar and Ceylon* London, 1703.

Linschoten spent five years in Goa, and therefore may be trusted to give a reliable account of Portuguese navigation In Chapter 34 of his book [1] which describes the "times of the year," he tells us that with the beginning of winter (by which Linschoten means the rainy season), the harbours were stopped up with great banks of sand, "so that neyther ship nor boate can eyther goe out or in "In the month of September, when winter endeth," he goes on, "the banks (of sand) doe fleete (and vade) away out of the River," and then not only small ships, but "also the great Portingall ships of 1600 tunnes" could freely go out or in. It was then that the ships were "rigged and made ready to saile for all places, as also the Kinge's armie to keepe the coaste and to convoy Merchantes"

This does not convey the impression that Portuguese navigation disregarded the seasons or bad weather. In the rainy season the ships were kept in harbour, everything was taken out of them and they were covered with mats, or thatched over—"otherwise they would rot with the raine," says the same authority

Similarly Van Twist in his account of the times of the year in Gujrat refers to the end of winter or the rainy season as the time when ships got ready to sail, "for," he says, "those who put to sea or attempt to reach the Indian coast before the new moon has appeared in September, run the risk of losing both the ships and goods"—such was the fate of the Dutch ships *Middelburch* and the *Duyve* in 1618. [2]

Finally Tavernier says: "Navigation in the Indian seas is not carried on at all seasons, as it is in our European seas, it being necessary to take the proper season, outside which no one ventures to put to sea."[3]

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[1] *Voyage of Linschoten to the East Indies I*

[2] Van Twist, 57. [3] Trs. by V Ball, 2nd Ed. I, 4.

It is not necessary to produce more evidence to show that European navigation in Indian waters in those days was subject to the seasons precisely in the same sense as Indian European crews trained in the storms of the North Sea and the English Channel had not less respect for the Indian seas in the monsoon days than Indian crews.

(2) Van Twist and Terry refer to the weakness of Indian ships and their defective armament [1] Both these writers, however, are speaking of very large ships which carried pilgrims to Mecca (ships each carrying over 1000 passengers are mentioned by Twist and 1700 passengers by Terry) The question of armament will be considered later on, but so far as Indian ships of ordinary size engaged in the trade are concerned, it may be doubted whether they were weaker in construction than English or Dutch ships

The letter from the (English) President and Council to the Company of 2nd November, 1668, deals with Bombay and ship building It was proposed to start ship-building on the new island, some objections to Indian-built ships were therefore anticipated and answered. The letter states —

> "And if any shall object they may not have that shape, or be soe profitable for stowage of goods, as our English shipps are, we answere that these carpenters are growne soe expert and masters of their art that here are many Indian vessails that in shape exceed those that come, either out of England or Holland (*Eng Fact* xiii, pp 79-80)

When it is remembered that ship-building had been carried on in India for long centuries before the advent of Europeans, and that Indian craftsmen in other arts were unbeaten, some evidence would be required to show that India was unable to build ships that could stand bad weather

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[1] Van Twist, p 66 (Ed. 1638) For Terry see Foster, *Early Travels* p. 301

In the same letter the reference to English ships is not quite complimentary, while the argument in favour of building ships in India is strong.

> The Company had written to the Council at Surat about sending some ships to be employed in the coasting trade The question was considered in the Council and the President "declared to us the many inconveniencies and hindrances he mett with, greatly to your prejudice, in the ships that were sent to voyage in the country, saying they were always out of repaire and aileing one thing or other when they were to take in their fraights, instancing that either they must be calkt first, or that they were leakie and their sheathing must be rippt off, or their caske were leakie and wormeaten, which they are very subject to in this countrey One or other of these he was perpetually troubled with Besides, our oaken planke doth not agree soe well in this parching country, but shrinkes and wasts exceedingly And therefore (he) mentioned the building of a shipp or two in the countrey, giving these reasons that here was as good tymber as the world afforded, and especially near Bombay, to be had cheaper than in any other place, that the carpenters wrought their worke very cheap, substantial and strong, of planke let into each other, with cotton and tarr, and then spiked, which is called rivetting worke, this is to our knowledge, very lasting and admitts of noe caulking, or other trimming then chynaming* once a year, which is done in one spring (tide), and this excuseth all caulking worke, ocum, pitch, and tarr, with the expence of many carpenters and caulkers, then, instead of caske (which are ever out of repaire) we here use tanks, or great vessels made of good thicke planke, that reach from the lower decke to the bottom of the hold"

It would seem that whatever be the virtues of the English oak, ships made of Indian timber were well adapted to navigation in Indian seas Further, Indian ships which put to sea in the monsoon days could not have been ill-built, nor their captains or crews wanting in courage or skill.

Both the Dutch and the English had some of their ships built in India. A letter from Van den Broecke dated the 11th January, 1624 (H. T (1) VI, ccxviii) refers to a settlement of English-Moslem differences in November 1623, one of the conditions of the settlement being the "building of 3 to 4 ships yearly, as the natives did for the Dutch." It is reasonable to suppose that the Dutch and the English would not be anxious to have any of their ships built in India unless those ships were both cheap and strong

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* Smearing with a mixture of chuna (lime) and other ingredients. Eng Fact xiii, 79n

Of foreign ships Indian merchants preferred the Dutch A Dutch letter of 1651 says that merchants much preferred the Dutch ships, because care was taken of their goods which, in English vessels, were frequently spoilt by sea-water*

In *English Factories* (vii, 142) it is stated that Indian mechants preferred the Dutch vessels "finding there much better accommodation and no less safety," with the result that "the Hollanders in four ships have carried all the fraight goods that have been brought to the [Swally] Marryne"

(3) Why did Indian merchants, who had hitherto patronised Indian shipping, prefer any European vessels at all? Moreland gives a two-fold answer (*a*) cheapness of freights and (*b*) greater security

The first (*a*) must be at once rejected as wholly incredible Why were the rates quoted by Indian ship-owners high? Was it because of the heavy cost of shipbuilding in India, or the higher rates of wages paid to Indian crews? As we have seen, the letter to the Company of Nov 2, 1668 quoted above, refers to the Indian carpenters who "wrought their worke very cheape, substantiall and strong", further, the letter referred to "the inconvenience, the extraordinary charge and expence of tyme, the English shipping" put them to, and to all things in India "being lesse than halfe the rate of what is accustomary, we mean as to carpenters, smiths and labourers pay"

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* See *Eng Fact* ix, 117 *n*

When competition was very keen, and Indian shipping plentiful, Indian ship-owners quoted, not high but incredibly low rates, they submitted "to any, however contemptible fraughtments, yea some of them, soe to gaine merchants to them, furnish them gratis with monies to extinguish such engagements as customes, fraught etc, charges involve them in, for which formerly they have paid 20 and (in the last daies) 15 and 16 per cent' (*Eng Fact* vii, 142.)

The preference for Dutch or English vessels is explained not by the superiority of Dutch or English navigators, the superior construction of their ships, their supposed independence of the seasons or bad weather, or the cheapness of their rates, but by the fact of the greater degree of security offered by them in a special sense

It may be supposed that Indian ships could deal with Indian or Eastern pirates—they had been accustomed to that danger. But the advent of the European created new dangers The Portuguese, the Dutch and the English, as we shall presently see, freely captured or sank Indian vessels European vessels were better equipped for fighting, and against this new danger Indian vessels were almost defenceless It can be easily understood that the capture of Indian ships by the foreigner would create a feeling of insecurity in the minds of Indian merchants, and the merchant is primarily a business man, not a patriot Indian merchants would, thus, for the sake of greater security, ship goods in Dutch or English vessels, according as the Dutch or the English, at the time, happened to be the more powerful on the sea

At the beginning of the 17th century Indian shipowners shared the coasting and the overseas carrying trade only with the Portuguese. The situation began to change with the arrival of the Dutch and the English, and gradually as the latter acquired a larger and larger share of this trade by methods described below, Indian shipping declined The evidence in favour of the view that injury to Indian shipping was not the result, largely, of peaceful competition, is overwhelming, and it is easily found in the sources most of which have been used by Moreland. That Moreland completely ignores this evidence is probably due to his preconceived notions about the superiority of European navigators and European ships

In a letter dated the 1st April, 1622, (H T Series I, Vol. v No clxiv) Peter van den Broecke refers to the capture by the English of an Indian ship from Tatha (Sind) with 80 tons of gold (1 ton=100,000 florins) The English, it seems, tried to shift the blame to the Dutch, but according to Van den Broecke it was the English who had captured the ship and sunk it In the same letter Van den Broecke asked the Dutch authorities to send two ships to Surat in October as he had heard that the Moslems intended, when their three ships from Mocha (Mecca) and one from Achin returned, to attack the Dutch Company's vessels by way of reprisal—"the more as they had lost much money by the Dutch taking their ships from Dabul, Chaul and Diu"

In a letter dated the 7th August, 1622, Van den Broecke refers to the harsh treatment of the English in Surat, as they had captured Moorish or Moslem vessels from Chaul and other places (H T (1) V, clxv).

There is a similar reference in his letter dated the 25th December, 1623 † Safi Khan, the Governor of Surat, was so much annoyed with the English that he sent for Van den Broecke and asked him to rid the country of those "pirates" On Van den Broecke's declining to interfere in the matter, Safi Khan threatened to deal with the Dutch severely, saying that "they were one with the English" Later on the Dutch factory at Surat was surrounded by soldiers and the goods of the Dutch were seized, which led to representations by the Dutch to the English as well as the Indian authorities, and a counter-protest from the English (H. T (1) vi, cxcviii)

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† In this connection Van den Broecke received a message from Chaen Asim (Khan Azam) on the 21st October, 1623, which stated that the English had seized five Moselm vessels (H T (1) VI, cc 13 and 14). "You should urge the English not to trouble us so much," wrote Khan Azam, "and if they have any reason for it, why do they not send one

A Resolution adopted by the Dutch Council at Surat on Sunday, the 19th November, 1623, relates to a "fouwa" belonging to a bania which the English had seized The assistance of the Dutch was solicited, but they refused to interfere in English-Moslem affairs (H T (1), vi, cxcix)

In letter dated the 22nd April, 1625, Van den Broecke writes "The English would certainly not treat the Moors again as they had done" The loss the English had suffered was estimated at more than 300,000 florins, without considering the loss of trade (H T (1) vii, ccxxvi).

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of their people to us? I will make them fully content, and I shall judge according to what is right or wrong If the English have any complaints, I shall listen to them and I shall judge"

The Dutch protested to the English (the protest being signed, among others, by Van den Broecke and Francisco Pelsart), saying that they had to suffer on account of the capture of Moslem vessels by the English, and claiming damages for the losses suffered by them "So it is that we members of the Council, whose names are underwritten, in the name of the East India Company, for great need and nearly being compelled to do so, protest against you, the heads of the English Company, that you shall restore to us all damages, costs and losses and interest, which the United Company might suffer here through your seizing the Moorish vessels, and has already suffered for a long time, which claim we refer to both Companies in the Netherlands and in England." The protest is dated the 5th November, 1623 Van den Broecke characterises the counter-protest of the English or their reply as an attempt to make fools of the Dutch.

Acts of high-handedness on the sea were not mereley the chief cause of the decline of Indian shipping, but of the ruin of certain flourishing ports If one may judge from the complaints of Indian traders mentioned by Pelsaert and other writers, the advent of the Dutch and the English was not regarded then as an unmixed blessing Pelsaert says

> "Formerly, when the coast was still unknown to the English, a very extensive trade was carried on in Surat by the Moslems, but it has now fallen off greatly, and indeed is nothing compared to what it was, because all the chief sea ports, which were recently so flourishing, have collapsed, some through war, others owing to other causes, Ormuz, Mocha, Aden, Dabhol, and also the whole Goa coast, are idle, and do not know where to voyage, each is almost smothered in its own produce, and there are no signs that any other place, country or sea port has benefited, though usually one country profits by the decay of another All merchants, from whatever country they come, complain most bitterly Portuguese, Moslem and Hindus all concur in putting the blame for this state of things entirely on the English and on us, saying that we are the scourges of the sea and of their prosperity Often enough, if we notice any shortcoming and blame them, or threaten them for it, the leading merchants tell us they heartily wish we had never come to their country They point to the number of ships that used to sail from Surat alone—every year four or five of the King's great ships, each of 400 or 500 last (two for Achin, two for Ormuz, two for Bantam, Macassar and those parts), besides smaller ships Nowadays the total is very small "*

Pelsaert also noted that the trade of Cambay was almost wholly at an end, for which the merchants of Cambay blamed the English and the Dutch Moreland's comment on these statements is curious or, as we may say, characteristic He points out that "Pelsaert is giving not his own view, but the allegations of the shippers, the rate at which their complaints should be discounted is uncertain."† If Pelsaert alone had noticed these complaints, they might have been disregarded or heavily discounted. But similar complaints are recorded by Van den Broecke and De Jongh, they are also referred to in *English Factories* It is impossible to ignore them, or to dismiss them as imaginary.

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* *Jahangir's India*, pp 39-40

† *Jahangir's India*, 20 *n*

De Jongh in his account of Cambay written in 1629 (?) refers to the decrease in the customs revenue and the shipping of Cambay during the preceding 14-16 years —

> "The reason is," he explains, "that the Portuguese cannot come here from Goa, Diu, Muscat, Chaul, Dabol and other places with their *armadas de remas* with the same security as they used to do before, and instead of coming six times a year, they now do only one or two trips. This is because the Dutch and the English have largely supplanted them in the trade of Cambay, and understand so well as the Portuguese to realise the profits that are to be made here. Secondly, their little frigates have been several times captured by us and the English and declared good prizes This loss and dread hinders their coming to Cambay The people of Cambay openly reproach the Dutch and the English with having brought about the ruin of the town

And there is more in the same strain*

In a letter dated the 11th June, 1623, Van den Broecke wrote from Surat that that year no Malabaris had come to Surat for trade, as they used to come, which was a considerable source of revenue to that port "They blame the English and us," he goes on "[saying] that we ruin their ports" The English had appeared before Dabul and captured two Malabari vessels, for which they tried unsuccessfully to shift the blame to the Dutch Those of Cambay also complained, Van den Broecke writes, that they had lost a considerable income in the shape of duties on account of the non-appearance of Malabaris †

That the injury to Indian shipping was not temporary or limited to the period 1620-30, but progressive, and that the camplaints continued, is shown by the following extracts from *English Factories*.

Declaration made by President Breton at a General Consultation held in Surat on January 2, 1649. "On

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* See *Gujrat Report*, under Cambay

†H. T. Vol VI, (1st series), No cxcviii The original must always be consulted as the translation of the earlier documents in the H T leaves much to be desired.

December 22, the President and Council were sent for; and on their arrival the Governor [of Surat] conducted them 'into a private, retired place, where being seated hee commenced a large invective story against the Dutch, telling us that they had undone the King's port by depriving his merchants of such voyages as they were used to make for Achyne they had also lately forbidden them the sending of their ships to Persia and that Mokha only being left an open trade, might also this or the next yeare bee taken from them, which indignities hee could noe longer suffer, but in much passion affirmed with many oathes that hee was resolved to make seisure of their goods in the country and imprison their persons" The Governor sought the advice of the English, but they did not wish to interfere in the matter (*English Factories*, viii, 227)

English Factories, xii, 210, refers to Moslems noising it abroad that the English had "joyned with the Portuguezes in the seizing upon of their vessels lately bound for Brooch and Surat"

For Gujrat the most important sea routes were those to Persia and the Red Sea in the west and Achin (Sumatra) in the east Bengal and the Koromandal coast also carried on an extensive trade with Achin In the declaration made by President Breton quoted above, there is a reference to the attempt made by the Dutch to exclude Indians from the trade with Achin and Persia The story of Achin is interesting and it may be narrated more fully.

The following is a letter from Jeremias Van Vliep to Governor Arnold Heussen, dated October 13, 1644· (H T (1) XIV).

" The Moorish merchants from the coast of Coromandal and Bengal having been excluded from Queda in consequence of the Treaty we have made with the King, have sought the protection of the Queen of Atchin They come with passes from Her Majesty to Perak and flood the markets with cloth to such an extent that the Company's cloths find no purchasers Mr Van Twist, our predecessor, has several times addressed friendly representations to Rajah Perak desiring to make a similar contract with him as we have obtained from the King of Queda, but the request has been refused even with contempt "

The object of the Dutch was to monopolise the trade with their Eastern possessions In an English letter from Surat to the Company dated October 7, 1647, (*English Factories*, viii 163) the publication of "resolucions" by the Dutch at the coast and other places is mentioned "to intercept all such shipping as they shall encounter bound thither (Achin)." An English letter from Swally Marine, dated January 31, 1651, says (*English Factories* ix 341) " whoe (the Dutch) have already seized on Jounks of this place tradeing thither (Achin) and doe yet detayne them, notwithstanding all the means the owners can make by solicits for restoration "

Nothing more clearly illustrates the weakness of the Moghuls on the sea than the relations between the Dutch and Shah Jahan in 1649-53 The Dutch, having some grievances for which they had failed to secure redress, resolved in 1649 to redress their "Affronts and Injuries by Force of Arms"† Secret orders were given to Dutch ships to lie in wait for Indian ships and to capture them The instructions dated the 20th February, 1649, conveyed to the head factor Gerard Pelgrim and the factor Peter Ruttens were that none of the Great Moghul's ships, not even such as sailed from Goa, were to escape their hands; that they were to seize all Moslem vessels coming from Mocha, and that if the Dutch vessels coming from Mocha could intercept and seize the ships of Cambay and carry them to the river of Surat, that would be regarded as a singular piece of service. The result of these vigorous measures was that practically all the demands of the

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† Baldæus, *Malabar and Ceylon*, London 1703, pp. 567—72 This is a translation of *Malabar en Choromandel*, 1671.

Dutch were conceded One of the articles proposed by the Dutch to Shah Jahan was as follows —

> "V That for the future none of his Majesty's ships, or any others belonging to those of Suratte, Bengale or other places, could traffic to Achin, Pera, Queda, Oedjang Salang, Malacca, &c, and in case they should, they might be seized and declared as good prizes by our vessels, by reason that the Company being then engaged in a War against these places, were resolved to block up their Rivers, and to keep all Foreigners from trafficking with them by Sea, till they have received entire satisfaction at their hands."

Shah Jahan, it would seem, objected to this clause and the Dutch ambassadors, Jan Berchout and Jan Tak, who waited upon the King with valuable presents at Delhi on the 7th January, 1653, promised that the King's ships and those of his subjects would be given passes enabling them to trade to Achin and the neighbouring places But in doing so, says Aalbers, † they were acting against the intentions of the Dutch Governor-General and Council who wished to put an end to Indian shipping competition in those quarters, the war with Achin was merely an excuse And the measures adopted by the Dutch to realise their end were successful

We find Baldæus writing in 1671 that "*formerly*" the shipping of the Malabars was very large and that "*formerly*" ships from Surat traded with Achin, Tenasirim, Queda and the Maldives *

In the *Dag Register* for the 9th and 10th March 1665, 12 Moslem ships are mentioned as having arrived before Achin, 3 from Masulipatam, 2 from Negapatam, 1 from Portonovo, 4 from Bengal and 2 from Surat, the last carrying a very valuable cargo I have not been able to discover in the *Dag Register* any reference in later years to the arrival of Indian ships in those waters.

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† Rijcklof van Gœns, p 75

* Baldæus, p 575

Baldæus refers to the capture of Indian vessels by the Dutch in 1621 and 1628, and thus comments on the measures taken by the Dutch in 1649-53

"and tho our late Seizure happen'd not to prove much to our disadvantage, yet can't we at all times promise ourselves the same success, it being certain, that tho the Moors court our Friendship, yet are they on the other hand very stubborn, and not easily reconcil'd"

In an English letter from Calicut to Surat of November, 1666 (*English Factories* xii, 210) it is mentioned that "no vessels goe downe the coaste as accoustomarie, the Dutch prohibiting and forbidding all" And the Dutch were so strong that they openly defied the Governor of Calicut.

Finally the general policy adopted both by the English and the Dutch of excluding practically all Indian shipping from the coasting and over-seas trade is well illustrated by the following extract from *English Factories* x, 272 —

Letter from Surat to Madras (October 1658) "In a postscript dealing with a Madras letter just received it was laid down that for the future none but the Company's ships were to be allowed to trade to Achin, Bantam or elsewhere

'You suffering noe private man's shipp of our nacion whatsoever to voiage to and fro, neither to the ports the Honourable Company trade not unto, as well as where they doe, nay, not suffer Bannians or Moores [vessels] (except the Kings) to trade at the ports the Company doth, to their prejudice. The Dutch doe not, any why wee? Tis our practice here, and twill be the better for our masters profitt that you doe it there also."

I owe the reader an apology for quoting so extensively from contemporary documents, but in no other way could the conviction be brought home that the decay of Indian shipping was chiefly due to our weakness on the sea. The interests of truth are not best served by ignoring the essential and emphasizing the non-essential The helplessness of the Moghul Governors is shown by their piteous attempts to secure the assistance of the Dutch to punish English acts of piracy, or of the English to punish the Dutch. For the most part the authorities and Indian ship-owners could only look on helplessly while the Dutch and the English captured their ships or prohibited them to trade Sea-power and the growth of a mercantile marine go hand in-hand, and the destruction of important national industries is the inevitable result of political weakness—such is the lesson that Indian history teaches us

* * *

The question of developing an Indian mercantile marine has been recently engaging the attention of the Government An expert committee investigated the question in 1923-24 The opinion is widely held in India that the exclusion of Indians from the shipping trade is due to the monopolistic position occupied by certain British-owned lines Between 1872 and 1927, 32 Indian shipping companies were started with a capital of 12 crores As a result of the rate war waged against the Indian companies, 23 out of the 32 companies, with a capital of 8½ crores, went into liquidation The critics of Indian enterprise ascribe their failure to inexperience and mismanagement on the part of the promoters, but the Mercantile Marine Committee admitted that "the system of deferred rebates and rate wars must operate as an obstacle to the entry of new comers." Shipping rebates were unreservedly condemned by the Indian Fiscal Commission †

The Mercantile Marine Committee made recommendations, to which effect is being given, for the adequate training of Indians to become officers and engineers in the Indian mercantile marine Further, in view of the fact that in the past, with one or two exceptions, steamship companies in India were not anxious to take Indian apprentices on board their steamers, the Committee recommended for the coastal trade that before a license is granted to any company, an undertaking must be given that apprentices will be taken to the extent of at least two per ship, subject to a maximum of 60 for any one company, and that Indian officers and engineers, as they become eligible, will be employed up to the extent of 50 per cent. of the total number of officers and engineers employed

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† "132. There is however one special feature of the existing system to which we think it necessary to draw attention The system of shipping rebates is one of the strongest buttresses of monopoly It is clear that an arrangement whereby a certain percentage of the freight paid is returnable to the shipper at the end of twelve months, provided that no cargo is shipped by any outside line, is a powerful weapon for maintaining a shipping monopoly. Other countries have recently legislated against this system, and we think that the Government of India should make a thorough inquiry into the desirability of initiating similar legislation in India" (*Report of the Indian Fiscal Commission*)

The Mercantile Marine Committee recommended both the exclusion of subjects of foreign nations from the coasting trade and "the eventual reservation of the Indian coasting trade for ships the ownership and controlling interests in which are predominantly Indian" The proposal has given rise to a bitter controversy A certain section of the press insists on telling us "the brutal truth that on such an issue argument is subordinate to power," or, in other words the Reservation of the Coastal Traffic of India Bill may be passed, but it will not reach the statute book unless and until India attains Dominion Status

Those whose monopoly will be broken cannot be expected to welcome the creation of the Indian mercantile marine. Sir Arthur H Froom, in his Minute of Dissent to the Report of the Mercantile Marine Committee, advocates "complete freedom on the seas" and opposes any restriction in the coastal trade of India in the shape of reservation for Indian-owned ships He justifies the system of deferred rebates and rate wars on the ground that "similar action is taken against any new comer, of whatever nationality, seeking to cut into their established business." No argument will ever convince men who hold such views.

It is estimated that the reservation of coasting trade to Indians on about 100 ships of 500,000 gross tons, would necessitate the renewal of 5-10 ships per year. Repair shops exist in Bombay and Calcutta, practically all controlled by non-Indians It is desirable that Indian ship-owners should have their own repair shops and develop them so that they can build their own ships and engines The Mercantile Marine Committee recommended that—

> " If a ship-building yard is projected by an Indian company, the Government may aid that enterprise by (a) advancing a cheap loan to the extent of one-third of the paid-up capital of that Company and assistance in acquiring suitable sites, (b) guaranteeing the giving of all Government and Port Trust work to this ship-yard at a cost not unduly higher than the cheapest price which can be secured abroad for a similar class of work, and (c) legislating that when such a suitable shipbuilding yard is completed and established, all ships seeking for a license on the coast should also be required to have been built in India "

When these recommendations are carried out, foundations will be laid not only of an Indian shipping enterprise but also of a genuine Indian shipbuilding industry

CHAPTER V

FAMINES

We have seen that Moghul India at the beginning of the 17th century was not a very unhappy India in ordinary years The subject of famines next claims our attention.

Sir William Foster says about India of the past

> "Epidemics and famines constantly swept away large numbers, and their advent found the authorities fatalistic and impotent." [1]

It has been pointed out above that canals and railways have changed the meaning of the word famine. Great and praiseworthy efforts have been made to perfect the machinery for alleviating distress caused by famines and the saving of human lives

In the past people simply died when a famine came, but general and widespread famines, which took a heavy toll of life all over the country, were probably few and far between. There is no evidence to show that large numbers were constantly swept away by famines and epidemics in the 16th or the 17th century. At the present time mortality in epidemics is sometimes very heavy, for example, 12 million deaths (or more) in the influenza epidemic of 1918-19

Judging from the statements of two independent witnesses, Linschoten and Terry, the general health of the population at the end of the 16th and the beginning of the 17th century was not bad, and was perhaps better than it is to-day.

Linschoten tells us about "Canarijns and Corumbijns" or Corumbis of the West coast, who lived by tilling the land and fishing, and were "the miserablest"[2] people of

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[1] Introduction to *Early Travels in India* [2] Trs Hak Soc p 262

1650 Widespread drought in "all parts of India," but "its intensity was not great"

It will be seen that this is a record of isolated scarcity or famine in different years in different parts of India. In 1650 there was indeed widespread drought in "all parts of India," but apparently it did not amount to famine

This record is not half so "depressing" as that of the decade 1890-91 to 1899-1900[1]

1890—92 Scarcity in Kumaon, Garhwal, Ajmer and parts of Rajputana

1891-92 Deficiency of rainfall during the months of June to September which damaged the winter rice crop to a certain extent almost throughout Bengal Severe drought in the Punjab Season disastrous" for the Madras Presidency

1893-94. *Central Provinces* "Extensive and very serious damage to the rabi crops" owing to excessive rainfall in the winter and spring months

1895-96 *United Provinces and the Punjab* Failure of the rice crop in several parts of the United Provinces, the rabi crops much below the average In the Punjab the insufficiency of rainfall led to the failure of the kharif crops in large areas and the rabi crops were also poor

1896-97 *Bengal and Bihar* The winter rice crop yielded less than half the normal outturn and the rabi crop was much below the average

United Provinces and the Punjab. In the United Provinces unirrigated kharif crops dried up altogether and gave a very meagre outturn The rabi, on the whole, was not bad, except in Bundhelkhund where the wheat crop was almost a total failure In the Punjab, kharif crops failed over an abnormally large area

Bombay Presidency Both the kharif and rabi crops yielded less than half the normal outturn

Central Provinces Drought in October and November throughout the Province

Madras In large parts of the Presidency paddy yielded about half the normal produce and other food crops did worse

1897 A widespread famine in Bengal, Madras, Central Provinces, United Provinces, Bombay, Rajputana and the Punjab The area affected was 225,000 sq miles and the population 62 millions

1898-99. *Punjab* Drought in the kharif season, and the kharif crops failed largely. The rabi crops yielded a poor return.

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[1] See Datta's Report on Prices, Appendix F

1899-1900 *Bengal and Bihar* Damage to *bhadoi* crops on account of excessive and ill distributed rainfall Season "disastrous," to the rabi crops in large areas in Chhota Nagpur

Punjab Total failure of the kharif crops (unirrigated), 35 per cent. of the total rabi also failed

Bombay Presidency. The rabi season was "one of unprecedented drought" The yield of both the kharif and rabi crops was much below the normal

Central Provinces Both the kharif and rabi rains failed completely and both crops suffered immensely The loss in different districts ranged from half the average yield to an almost total loss

Madras Outturn of paddy was half the normal and that of other crops less

1900. Famine in the Central Provinces, Berar, Bombay, Punjab, Rajputana and Ajmer, affecting an area of 189,000 sq miles and a population of 28,000,000.

It is estimated that the total mortality due to the famines of 1896-97 and 1899-1900 was about 5 millions

Apart from these two general and widespread famines, there was not a single year which did not witness famine or scarcity in some part of the country or other

Moreland's list, as he says, may be incomplete. My object here is not to argue that famines have been more frequent under British rule than they were under the Moghuls, but to show that it is improper to make dogmatic assertions on the basis of insufficient material.

It must not be supposed that the decade ending 1900 is an isolated decade in the recent history of famines, though the famines of 1896-97 and 1899-1900 were undoubtedly two of the severest famines which have afflicted India, the one following so closely at the heels of the other. The record of the decade 1861-70 or that of 1901-1910 is also sufficiently black. In the former, 1861, 1865-7 and 1868-70 were all famine years; in the latter famine was declared in Bombay in 1905-06, famine was declared over large areas almost throughout India in 1908, while there was no year in which some large Province or Provinces did not suffer more or less serious damage to crops, resulting in scarcity in particular areas For details the reader is referred to Datta's *Report on Prices*, Appendix F.

Famine is a disease of all agricultural countries. Famines were not unknown in Europe in the past In the famine of 1771-72, 150,000 persons died of starvation in the Electorate of Saxony and 180,000 in Bohemia

The Moghul Kings were not indifferent to the sufferings of the people in a time of famine[1] But under the old conditions, famine was an evil which was absolutely unmanageable, and that is why it was so terrible in its consequences

The account of the famine of 1630 in Gujrat, given by Van Twist, is horrible to read Twist does not mention any relief measures organised by the State, and Mundy actually says that "no course is taken in this Country to remedie this great evill, the rich and strong engrossinge and takinge perforce all to themselves"[2] Moreland dismisses the subject of State relief in a few words and is led by Mundy to conclude that "the measures actually taken were not only inadequate but tardy, and that the leaders of the people acted in a manner likely to aggravate rather than mitigate the distress"[3]

The organisation of relief is thus described in the *Padshah-Nama* of Muhammad Amin Kazwini

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[1] "We must not permit ourselves to be deceived by the vain hope that the famines of recent years have been more difficult to deal with than those of the past, nor have we any right to suggest that those who have gone before us were less humane than ourselves, for there is direct evidence to the contrary" (Report of the Famine Commission of 1880, sec 86)

[2] *Travels*, 49

[3] Moreland II, 214

Not less terrible scenes were witnessed at Cawnpur 200 years later in the famine of 1837 A correspondent wrote in the *Englishman* newspaper of March 24 "You ask me to tell you all about the famine in Cawnpore, but indeed, no account nor description of mine could convey to you any adequate idea of the misery of the poor in this place and throughout its vicinity At

"The Emperor in his gracious kindness and bounty directed the officials of Burhanpur, Ahmadabad and the country of Surat, to establish soup kitchens, or alms houses, such as are called *langar* in the language of Hindustan, for the benefit of the poor and destitute Every day sufficient soup and bread was prepared to satisfy the wants of the hungry It was further ordered that so long as His Majesty remained at Burhanpur 5,000 rupees should be distributed among the deserving poor every Monday, that day being distinguished above all others as the day of the Emperor's accession to the throne Thus, on twenty Mondays one lac of rupees was given away in charity Ahmadabad had suffered more severely than any other place and so His Majesty ordered the officials to distribute 50,000 rupees among the famine-stricken people Want of rain and dearness of grain had caused great distress in many other countries So under the directions of the wise and generous Emperor taxes amounting to nearly seventy lacs of rupees were remitted by the revenue officers—a sum amounting to nearly 80 crores of *dams*, and amounting to one-eleventh part of the whole revenue When such remissions were made from the exchequer, it may be conceived how great were the reductions made by the nobles who held *jagirs* and *mansabs* †

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the beginning of the cold season the station literally swarmed with starving wretches, and now where are they? I believe I am within bounds when I say that in the cantonments alone, but a short time back from twenty to thirty died daily The river, owing to the sluggishness of the stream, became studded with dead bodies, and we have ceased to eat of its fish or drink of its waters At last it became requisite to hire establishments, not merely for the purpose of taking the starved-to death wretches to the ghats for their being flung into the Ganges, but also to have a river establishment in constant play in order to push down the corpses below Gajmow Between Calpi and Agra it is perfectly dreadful The dead are seen lying together by fifties To add to the misery of the poor starving population, the small-pox is becoming rife at Cawnpore" (quoted by Morison in *The Industrial Organisation of an Indian Province*, 262-3)

There is the following reference to the same famine in the *British Almanac Companion for 1857* "All who were in India during the famine of 1837 in the North-Western Provinces, will never forget the scenes of misery and horror which then occurred Thousands of poor people from the westward of the river Jumna flocked into Agra, many only to lie down and die at our gates, some to sell their children, or even their liberty, or resort to any expedient to sustain existence"

These painful accounts have been quoted just to show that before the difficulties of transportation were overcome by means of the railways, it was as difficult to save lives in a time of famine in the 19th as in the 17th century

† E & D. vii, 24-5

India is large, and it is not surprising that in a decade there is scarcely any year in which production is normal throughout the country and scarcity or famine does not afflict some part of the country or other. No conclusions regarding the frequency of famines can be drawn from the study of famines in the whole of India in 1640-50 or 1890-1900. These lists may even mislead uninstructed readers, for no part of India suffers from famine or scarcity every year

The problem should therefore be studied, not with reference to the whole country, but to a particular area.

For example, if we knew how the price of rice on the Coromandal coast had fluctuated in each year from 1600 down to the end of the 19th century, we should be able to reach some conclusions regarding the frequency of famines on the Coromandal coast in the 17th century and now. But no such information is available

In Moreland's list (1640-50) the Coromandal coast appears thrice. It is not known whether the deficiency of rain actually caused a famine near Pulicat and Madras in 1640. In this decade, then, so far as we know, there was one famine on the coast (1645-6), the area of which seems to have been restricted, while there were two other years of deficient rainfall (1640 and 1648).

The proportion of the actual to the normal (=100) rainfall on the East Coast in certain years of the decade 1890-1900 is shown below

Rainfall on the East Coast *

Year	Madras	Months	Proportion of actual to normal(= 100)
1891	North East	October December	30
	North	June-September	51
	North	October-December	55
	South	June-September	58
1892	South	October-December	42
1896	North & East	,,	17
	North	June September	65
	North	October-December	53
1897	North	,	47
	South		18
1899	North East		57
	North		10
	South	June September	69
1900	North		52

Apart from other years of deficient rainfall, there was serious scarcity on the East Coast in 1891-2, scarcity in 1899-1900 and scarcity amounting to famine in 1897

There is an interesting reference to the Coromandal coast in the *Travels* of Georg Andriesz We are told that the coast was populous, and that in point of fertility it was regarded as second only to Gujrat. Fish were plentiful, and salted and dried fish were exported The climate was healthy "as of the Cape of Good Hope", and those in bad health, when taken to the land, were "again quickly restored to health" The writer then proceeds

> "Here is also no lack of fruits, which grow on trees or in the gardens, they are as plentiful in India as in Europe, except in certain years of very great drought, which, as they unanimously declared, occurred every 16, 17 or 18 years Thus, when lean years come, no rain having fallen for two years, the inhabitants, having little left [with them], must ask their neighbours for help But they recover when they again get two good years "

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* Report Prices Inquiry Committee, 1914, Appendix F.

Andriesz adds that as a protection against dry seasons the people had tanks "which are in their circumference 800 steps or more,†" in which rain water was stored to be used when the rains failed

This passage creates a less unfavourable impression about famines than Moreland's researches Famines on the Coromandal coast occurred once in 16-18 years, the people tided over the bad years with the help of their neighbours, and recovery was quick Widespread famines in which neighbours would not be able to help one another, in which mortality would be consequently heavy, and from which recovery would be slow and difficult, apparently did not occur so frequently If the people of the Coromandal coast did not tell Georg Andriesz that large numbers of them were constantly swept away by famine, it is reasonable to suppose that they were not thus constantly swept away Had they any motive to mislead the traveller, or had Georg Andriesz any motive to misrepresent the facts?

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†*De Beschryving der Reizen van Georg Andriesz*, 1644-50 Amsterdam, 1670, p 86 The full title of the book is "An account of the travels of Georg Andriesz through East India and the (Indian) islands, through China, Tartary, Persia, Turkey, Arabia, Syria, Palestine, Italy and Germany, from his departure in the year 1644 to his return in the year 1650", by Adam Olearius, published in High Dutch (German) and translated (into Dutch) by J H Glazemaker (Amsterdam, 1670)

In the Preface, written by Adam Olearius, it is stated that the traveller Georg Andriesz, went to Batavia at the time when the inspection of all the factories in the East of the Dutch East India Company, which took place every three years, was about to begin He accompanied the Inspectors in the capacity of a *lyfwacht* or body-guard, and thus had the opportunity of visiting all the Dutch factories in India They came to Surat in 1646 The travels of Georog Andriesz were not free from adventure When he was returning from Formosa to Batavia, he suffered shipwreck and fell into the hands of, first the Chinese and then the Tartars. Escaping from his master with an Indian, he passed through various countries and finally reached Europe.

It is probable that conditions over large parts of the country were not very different, for the Coromandal coast was not then, and is not now, an area peculiarly immune from famine In some parts of the country, the conditions may even have been better

This is also the conclusion suggested by a long and continuous list, compiled from different sources (discussed separately) of the price of coarse rice in Bengal from 1700 to the present time

[*Table*

Olearius recommends Andriesz in the following words 'And although he may not be classed among the scholars, God gave him as will appear from this book in addition to a good judgment, a very strong memory, which [two] do not always go together, and it is wonderful how he has noted and written down so exactly, among other things, the names of places, mountains, streams [and] towns, where he went, and of the people with whom he had to deal" **(Preface)**

Price of coarse rice in Bengal, 1700—1925 in seers per rupee.

Year.	Seers per Re	Year	Seers per Re	Year.	Seers per Re.	Year	Seers per Re
1700	70	1740	32	1780	30	1820	22 5
1	40	1	31	1	38	1	23 7
2	60	2	25	2	34	2	27 7
3	60	3	42 5	3	40	3	21 3
4	96 2	4	16	4	32	4	22 0
5	77 5	5	17	5	24 6	5	28 1
6	90	6	34	6	25	6	21 7
7	89 9	7	22	7	25 5	7	24 1
8	72 1	8	32	8	14	8	23 7
9	88 8	9	38 8	9	21	9	29 1
1710	60	1750	50	1790	24	1830	28 6
1	57	1	38	1	20	1	31 3
2	80	2	11	2	24	2	26 5
3	133 3	3	21	4	29	3	26 0
4	120	4	32	4	37	4	26 7
5	50	5	33	5	51 2	5	27 9
6	55	6	40	6	47 4	6	32 7
7	50	7	42	7	47 4	7	27 3
8	40	8	37	8	45 7	8	27 8
9	38	9	31	9	44 1	9	27 0
1720	45	1760	29 6	1800	40	1840	28 4
1	45	1	23 6	1	36 6	1	30 6
2	35	2	28	2	38	2	29 1
3	35	3	25	3	40	3	28 6
4	40	4	31	4	42	4	27 8
5	45	5	21	5	50	5	24 6
6	45	6	24	6	40	6	23 1
7	44	7	23 4	7	26 5	7	28 4
8	30	8	20 9	8	40	8	35 6
9	40	9	11	9	35	9	36 1
1730	75 5	1770	3 25	1810	32	1850	32 8
1	43 4	1	24	1	30	1	40
2	35	2	34	2	45	2	29 3
3	35	3	31	3	40	3	25 3
4	30	4	32	4	34 6	4	28·4
5	30	5	27	5	32 0	5	35 1
6	30	6	30	6	32 0	6	21 7
7	40	7	17 2	7	29 1	7	18 7
8	40	8	19 5	8	32 8	8	16 4
9	30	9	25	9	26 6	9	14 2

Continued.

Year	Seers per Re.	Year	Seers per Re	Year	Seers per Re	Year	Seers per Re.
1860	18 2	1880	13 3	1900	12 1	1920	4 8
1	22 0	1	19 1	1	10 3	1	5 3
2	22 9	2	19 3	2	9 6	2	6 0
3	24 7	3	16 0	3	11 3	3	7 1
4	18 0	4	12 5	4	11 2	4	6 8
5	14 8	5	12 3	5	11 7	5	5 5
6	10 2	6	13 6	6	8 1		
7	14 5	7	17 1	7	6 3		
8	18 7	8	16 1	8	6 5		
9	15 5	9	12 1	9	6 9		
1870	17 8	1890	11 7	1910	11 3		
1	18 4	1	12 7	1	9 9		
2	19 5	2	10 6	2	9 1		
3	18 3	3	9 7	3	7 7		
4	11 7	4	9 9	4	7 6		
5	12 7	5	12 3	5	6 7		
6	16 0	6	11 2	6	6 4		
7	11 6	7	7 9	7	7 9		
8	10 3	8	10 0	8	9 7		
9	9 7	9	13 1	9	5 7		

There are great fluctuations of price from year to year. 1744-5(?), 1752, 1769-70 and 1788(?) are, however, indicated as famine years of greater or less intensity. Of these the famine of 1769-70 was undoubtedly the worst. It is estimated that one-third of the population of Bengal perished in this famine.

Moreland has criticised the measures adopted by Shah Jahan to relieve distress in Gujrat in 1630 as tardy and inadequate, though he does not find it "easy to suggest what more could have been done." One would be glad to know what relief was provided by the East India Company for the famine-stricken people in Bengal in 1769-70, and the efforts made by the Company to save life. It is well known that the net revenue collections in Bengal of the year 1771 actually exceeded those of the pre-famine year 1768.*

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* Banerjea, *East India Finance*, 132. Dutt I, 52-53

Between 1790 and 1861 there was no abnormal rise in price except in the years 1858=60, which may be regarded as years of scarcity rather than of famine.

Do periods of high prices tend to recur at regular intervals?

Jevons in his *Investigations in Currency and Finance,* gave a list of the price of wheat at Delhi from 1763 to 1835, and tried to show that famines recurred periodically at an interval of ten or eleven years. As a matter of fact, the years of maximum price in this list are 1763, 1773, 1783, 1792 and 1803, at intervals of about 10 years, but thereafter regularity is broken. From 1803 to 1835 prices show no regular ascent or descent, and there are several maxima and minima. The next famine after 1803 occurred in 1826, and after that in 1834.

The question of the periodicity of famines is also incidentally discussed in some of the early Punjab Settlement Reports. In the Settlement Report of the Sialkot District (1865) Mr Prinsep, the Settlement Commissioner, refers to the famines of 1783, 1812 and 1833, and under the heading "Coincidence of their recurrence," remarks:

> "Adding to these the late visitation of 1861, we have within a period of 83 years four famines which, strange to say, have recurred at regular intervals of from 21 to 29 years of each other, and each one of which must have tended to impoverish the country in a greater or less degree."

And he added that it was proper to give due weight to this recurrence of famines at regular intervals when fixing a new assessment.

In the Settlement Report of the Rohtak District (1880) Messrs. W. E. Purser and H. C. Fanshaw, the authors of the Report, give a list of famines which occurred in Rohtak during a period of 124 years ending 1877-78. The names of the famines are given and popular sayings about them are quoted, from which it may be inferred that the famines actually occurred in the years in which they are stated to have occurred. About the "*Satha*" famine of Samvat 1860

(1802-03) it is said that grain sold at 10 seers per rupee, two consecutive harvests having failed In the next famine called the "*Unhattra*" (1812 A D) prices rose to 7-8 seers per rupee About the "*Narria*" famine of 1890 (1833-34) people used to say "*Bania warh gaya kothi main, balak roie roti main,*" meaning "the grain-dealer hid in his house and the child cried for bread." The authors of the Report do not believe in a ten or eleven-yearly cycle of famines They say

> "The famines seem to have occurred irregularly, and to have nothing of a cycle nature about them, eight in the present century give one every ten years on an average, as a fact, two have occurred in each of the second, fourth and seventh decades, and none in the third, fifth and sixth, though the famine of 1860 61 was only just outside the last"

The famine years for Rohtak, before 1861, are 1753-4 1782-3, 1802-3, 1812-3, 1817-8, 1833-4 and 1837-8

Some lists of prices are given at the end of this Chapter We have a record of the price of wheat at Farukhabad (United Provinces) for 119 years of the price of rice at Belgaum, Poona and Ahmadabad for 98 years of wheat at six stations from 1861 to 1921 and of wheat and rice for India for the same period

All these lists show that prices rise and fall periodically, but that periods of abnormally high prices do not recur at fixed intervals

Let us take first the longer lists Before 1861, the price of wheat reached its maximum at Farukhabad three times, in 1817, 1827 and 1838, at intervals of 10 or 11 years, but then there is a break and there is no famine or scarcity till 1861 As regards rice, while there are considerable fluctuations in price from year to year, between 1824 and 1861 the price at Belgaum fell below 13 seers only once, in 1835 For Poona, 1825 was a year of scarcity and then 1860, at Ahmadabad, the price rose to ten seers per rupee in 1825 and three times in the decade 1830-41, while the years 1859-60 were undoubtedly years of scarcity.

Ignoring minor fluctuations, the years of maximum price between 1861 and 1921 were the following 1866, 1868-9, 1878-9, 1897, 1900-01, 1908, 1915 and 1919.

In some places prices were unduly high also in the following years Meerut and Delhi 1861 (not 1866) and 1888, Amritsar 1862 (not 1866),1887 and 1892, Rawalpindi 1887 and 1892 (not 1861 or 1866) Belgaum 1864-66 and 1870, Poona 1870 and Ahmadabad 1868-70

The only definite conclusion that this evidence suggests is a negative one—that there is no ten or eleven-yearly famine cycle

The years of maximum price, as shown by the all-India Index number for wheat and rice, are the following

Wheat	Rice
1866	1866
1869	1869
1879	1878
1888	1889
1892	1892
1897	1897
1900	1901
1908	1908
1915	1913
1919	1919

These index numbers again show that there is no regular ascent and descent of price, the cycle completing itself in 10 or 11 years. In the decades 1861-70 and 1911-20 the price of both wheat and rice rose abnormally twice, and in the decade 1891-1900 the price of wheat no less than three times Famine or scarcity seems to obey no definite law of recurrence We have also seen that in Bengal, between 1700 and 1790 there were five years of famine or scarcity, but between 1790 and 1861 there was no abnormal rise in price except in the years 1858-60

Appendix A.

Price of coarse rice in Bengal, 1700-1925 Sources

1790-1813

With the exception of certain years, the prices for 1700 to 1813 have been taken from a table compiled by G. Heiklots, Fiscal of Chinsurah, and published in *Gleenings in Science*, Calcutta, 1829 (Vol I 368 9) The **Table** bears the following heading

"Table showing the market price of Grain etc. in Lower Bengal from the year 1700 to 1813, extracted from authentic documents of one month in each year, for which generally the month of August was selected Drawn up by G Herklots, Esq , Fiscal of Chinsurah "

Herklots' list contains many gaps These, up to the year 1785, have been filled with the help of the MS Journal of the East India Company kept at Fort St William (India Office Library, London—Bengal General Journal and Ledger) The Journal for 1703 4 bears the following title

"Journall Lettr A, Containing the Accompts and State of Affairs of the United Trade of the English Company Trading to the East Indies, their United General Stock in Bengal under the Direction and Management of the Council Established by the Hon Court of Managers of the United Trade and kept by their Servant Jonathan Winder, commencing the primo February, ending ultimo April 1704 "

The prices of rice mentioned in the Journal and used by me are in most cases those of rice purchased in large quantities for exportation , the prices are quoted in the rupees, annas and pies per bazaar maund which was about equal to the present maund of 82 Lbs. Detailed references are given below

Year	Price in seers per rupee	Quotations	Source Journal (year and page)
1704	96 2	5	1703 4,11
1705	77 5	1	1704 5,81
1707	89 9	1	1706-7,85
1708	72 1	3	1708 9,28,29,33
1709	88 8	2	1708-9,108,116
1710	60 0	1	1709 10,142
1711	57 0	2	1710-11,132,1711 12,55
1712	80 0	1	1712-13,89
1713	133 3	3	1713 14,54,80,81
1727	44 4	4	1726 27,169 70, 1727-28,96
1730	75 5	2	1729 30,145
1731	43 4	3	1730-31,124
1737	40 0	1	1737-38,104
1738	40 0	1	Do. ,138
1743	42 5	1	1742-43,309
1749	38 8	1	1748-49,457
1760	29 6	8	1759 60,188 9
1761	23 6	6	1760-61,180 1
1765	21 0	3	1764-65,304 (St Helena stores)
1767	23 4	2	1766 67,328
1768	20 9	4	1767 68,266-7
1777	17 2	3	1776 77,193-5
1778	19 5	3	1777-78,418
1782	34 0	1	1781-82,534
1783	40 0	1	1782 83,479
1784	32 2	1	1784-85,472
1785	24 6	1	1784-85,702

These prices, strictly speaking, cannot be compared with Herklots Herklots' quotations are generally for the month of August, the prices given above are for different months of the year, or averages of quotations for several months The prices given in the Journal, however, are useful, in so far as they show whether famine or scarcity did or did not exist in the year in question For example, the year 1704 is a blank in Herklots' list But from the Journal we learn that in April 1704 rice was purchased by the East India Company, presumably at Calcutta, at the following prices

Quantity in Mds	Price, Mds per Re
1,000	2 0
498	2-10
1,061	2 20
3,040	2 21
694	2-30

The average of these rates is 96 2 seers per rupee The exact price does not matter, we know that the year 1701 was not a year of famine, and that is sufficient for our purpose *This is the only use made of these prices*

The prices for 1795 1801, both inclusive (left blank in Herklots' list), are the average of the highest and the lowest price in each year of Backerganj rice, quoted in the *Bengal Commercial Reports* (India Office Library, London) from 1795-96 to 1801 2

1814 60 The source of prices for 1814 to 1843, both inclusive, is also the *Bengal Commercial Report* (1814-15 to 1843-4) From 1814 to 1828, both inclusive, the price, as before, is the average of the highest and the lowest price of Backerganj rice for each year, excepting the year 1825 for which no quotation for Backerganj rice was available, and the average of *Moonghy* and *Ballam* was taken For the years 1829 to 1843, both inclusive, the quotation represents the average of the highest and the lowest price in the year for *Moonghy* and *Ballam*

For the years 1844 to 1854 the source of information is the newspaper *Englishman* of Calcutta

Year	Price in seers per Re	Grade	Quotation for
1844	27 8	*Moonghy & Ballam* average	Sep 2,1844
1845	24 6	,,	Sept 15,1845
1846	23 1	,,	Sept 20,1846
1847	28 4	,,	Sept 6,1847
1848	35 6	,,	Sept 4,1848
1849	36 1	,,	Sept 10,1849
1850	32 8	,,	Sept 2,1850
1851	40 0	Table, middling	Jan 1851
1852	29 3	*Moonghy*	Sept 6,1852
1853	25 3	*Moong & Ballam*, average	Sept 2,1853
1854	28 3	,,	August 28,1854

Prices for 1855 to 1860, both inclusive, are those given in the *Report on the Famine in Bengal and Orissa of 1866* (p 5)

1861-1925 The prices are taken from the *Index Numbers of Indian Prices* (average of *Moonghy* and *Ballam*) It was necessary to convert prices, given in the Report in rupees per maund, into seers per rupee The prices are wholesale

It may be stated once more that while prices taken from different sources, relating to different areas, and not always to the same quality of the commodity, cannot be used for making exact calculations regarding changes in the purchasing power of money, they are still useful in a very limited sense—that is, in showing whether famine or scarcity prevailed in a particular year.

Appendix B.

Price of Wheat and Rice in seers per Rupee

Year	Wheat Farrukhabad	RICE		
		Belgaum	Poona	Ahmadabad
1803	47			
4	44			
5	45			
6	36			
7	43			
8	44			
9	38			
1810	36			
1	52			
2	61			
3	39			
4	45			
5	48			
6	47			
7	15			
8	23			
9	20			
1820	21			
1	40			
2	43			
3	27			
4	30	18 7	11 4	15 0
5	41	18 7	9 1	10
6	27	18 5	13 6	12 0
7	15	22 0	13 6	13 0
8	33	23 7	13 6	15 0
9	37	23 0	14 3	19 0
1830	32	32 5	13 6	19 0
1	34	32 5	13 6	15 0
2	45	26 2	13 6	14 0
3	38	13 0	13 6	10 0
4	27	18 0	14 8	10 0
5	48	12 5	17 1	13 0
6	34	15 0	15 9	12 5

Price of Wheat and Rice in seers per Rupee—contd

Year	Wheat Farukhabad	RICE		
		Belgaum	Poona	Ahmadabad
7	30	13 0	17 1	13 5
8	14	13 7	15 9	10 0
9	34	16 2	13 1	11 0
1840	29	17 0	12 5	11 5
1	27	17 5	12 5	15 0
2	26	21 2	13 6	13 5
3	35	24 0	14 8	18 5
4	32	25 0	14 8	16 5
5	32	22 5	17 1	18 0
6	34	18 7	13 6	13 5
7	36	20 0	15 9	13 0
8	44	21 2	14 8	13 0
9	48	27 5	14 8	12 0
1850	42	28 0	15 9	11 5
1	44	28 2	14 8	13 0
2	45	24 0	15 9	13 5
3	34	22 0	14 8	13 5
4	25	22 0	14 8	14 0
5	40	18 5	17 1	13 1
6	34	18 6	14 8	13 0
7	29	16·5	13 6	12 5
8	33	20 5	12 5	10 5
9	31	19 0	11 4	9 5
1860	24	16 0	10 2	7 5
1	13 9	13·4	11 3	9 2
2	30 0	14 5	10 5	9 9
3	33 2	8 2	8 0	8 2
4	22 8	6 3	7 0	6 4
5	18 8	7 3	6 7	6 2
6	13 9	6 6	7 8	6 0
7	21 2	10 2	6 7	7 4
8	20 9	12 2	10 2	6 6
9	13 7	9 0	8 0	6 6
1870	19 8	8 5	7 2	6 6
1	[24 1]	13 4	8 7	9 7
2	17 8	9 8	8 3	9 9
3	16 7	10 8	10 2	11 0
4	15 4	15 2	11 9	11 4
5	21 7	16 5	11 9	11 5
6	27 9	11 9	10 6	8 7
7	16 9	7 1	7 5	7 8
8	14 8	8 4	7 6	6 7
9	14 0	9 4	8 4	7 8
1880	17 9	11 0	9 1	10 1
1	19 2	11 9	11 3	12 0
2	18 0	11 1	12 1	9 5
3	18 7	12 4	11 3	13 0
4	21 2	14 2	10 0	10 6

Year	Wheat Farukhabad	RICE		
		Belgaum	Poona	Ahmadabad
5	21 2	12 4	10 5	11 3
6	18 0	11 4	9 8	11 2
7	14 8	11 2	10 2	11 6
8	14 4	11 1	10 2	10 3
9	15 8	12 4	9 2	8 1
1890	14 2	12 5	9 9	8 8
1	13·2	10 5	10 1	9 7
2	13 7	10 2	8 5	9 3
3	14 2	11 7	10 0	11 0
4	16 3	10 6	10 6	12 7
5	14 8	11 2	10 8	13 2
6	10 5	12 0	10 0	9 9
7	9 8	9 5	7 8	7 6
8	15 7	11 6	9 6	9 0
9	15 6	10 5	9 8	9 9
1900	12 2	8 3	7 5	9 1
1	12 7	10 2	9 1	10 3
2	15 4	12 7	9 3	11 0
3	16 3	12 9	9 5	10 3
4	18 0	12 7	9 1	10 4
5	12 8	10 4	9 3	10 2
6	11 6	8 7	8 0	8 8
7	10 2	8 8	7 6	8 4
8	8 1	8 7	6 9	7 5
9	8 8	8 7	8 3	9 3
1910	11 1	9 0	8 8	10 0
1	13 1	9 0	8 1	8 5
2	12 1	7 8	6 6	7 9
3	10 5	7 8	6 1	6 8
4	8 5	8 0	6 8	6 4
5	8 1	8 5	7 1	6 3
6	9 9	8 1	6 6	5 7
7	9 5	7 4	6 8	5 3
8	7 4	5 1	4 8	4 8
9	5 7	4 9	3 7	4 0
1920	6 5	4 7	4 4	4 0
1	5 6	5 5	4 3	4 0

Notes

Prices before 1861 *Wheat* The source of information is the Settlement Report for Farukhabad, 1875 (pp 10-11) It is explained by the Settlement Officer that the prices given are those ruling on the 18th of each Baisakh This was the harvest rate fixed when the nature of the year's crop had been fully ascertained It was generally somewhat below the highest rate obtained throughout the year, but considerably above the average struck on the prices for the twelve months.

Rice The prices have been taken from the Report of the Select Committee on East India Finance, 1871 (Appendix No 4 p 613). In July 1863 the Government of Bombay appointed a small Commission to inquire into the changes that had taken place during the preceding 40 years in the cost of living The Commission reported in March 1864 I have not seen the original report The price of rice is throughout quoted in *tolas* per rupee and has been converted into seers at 80 tolas per seer Probably it is retail price

Prices after 1861 See Prices and Wages Report 7th, 24th and 37th Issues. In the last mentioned prices are given (1907-21) in rupees per maund of 82 286 lbs , and had to be converted into seers per rupee The prices are retail.

The price of wheat in 1871, [24·1] is that for Cawnpore, no information being available about the price at Farukhabad in this year. The rate quoted would show that 1871 was not a famine year.

Appendix C

Index Numbers of Prices 1873 = 100. Retail Prices

Year	WHEAT*							
	Cawnpore	Faizabad	Meerut	Delhi	Amritsar	Rawalpindi	India†	Rice (India)†
1861	96	61	126	129	140	64	86	90
2	60	64	60	72	170	69	73	75
3	58	56	61	75	128	62	80	79
4	84	69	85	89	93	73	102	96
5	99	92	98	96	99	68	115	128
6	118	111	86	98	98	67	129	155
7	99	65	94	91	104	76	101	129
8	83	87	79	91	135	146	96	110
9	144	111	153	163	200	139	148	129
1870	107	80	129	147	168	122	136	109
1	69	62	83	87	104	103	90	93
2	86	93	83	91	108	98	98	87
3	100	100	100	100	100	100	100	100
4	96	95	98	99	99	78	94	118
5	71	62	91	89	97	64	81	102
6	66	59	78	77	98	57	78	114
7	103	92	102	103	97	65	102	133
8	120	120	135	135	142	103	147	159
9	117	108	135	135	172	200	158	154
1880	90	84	109	109	148	169	118	121
1	81	81	99	98	119	141	96	96
2	89	89	109	102	98	91	101	96
3	89	86	112	100	101	74	103	110
4	75	77	99	95	93	60	91	135
5	74	72	91	84	92	65	89	137
6	84	81	110	100	119	88	103	128
7	101	101	134	129	152	133	121	123
8	102	103	135	129	144	127	123	131
9	99	104	119	110	117	97	118	148

Year	WHEAT*							Rice (India)+
	Cawnpore	Faizabad	Meerut	Delhi	Amritsar	Rawal pindi	India†	
1890	107	106	123	116	128	98	117	147
1	114	117	145	135	168	126	137	150
2	117	116	143	131	180	149	151	179
3	106	107	126	114	148	125	127	162
4	93	92	103	93	96	74	105	152
5	102	106	123	110	129	90	116	143
6	143	138	166	161	189	153	153	162
7	167	151	199	192	235	185	206	207
8	110	95	138	132	148	115	143	158
9	112	98	135	130	149	127	140	145
1900	143	130	171	168	197	158	176	171
1	135	123	153	143	153	123	160	180
2	115	103	130	125	143	126	142	165
3	107	95	130	125	141	124	129	160
4	101	94	124	120	133	107	123	147
5	133	122	154	147	155	118	142	169
6	140	132	155	150	156	125	155	209
7	155	150	177	170	170	128	168	229
8	200	186	239	230	256	207	226	254
9	183	162	212	203	235	188	203	220
1910	147	132	169	162	181	147	170	198
1	132	116	151	149	167	137	153	199
2	140	127	163	167	184	162	170	230
3	157	134	180	183	195	172	177	255
4	185	162	212	209	218	171	200	254
5	210	192	244	239	270	210	227	246
6	180	161	208	203	227	187	193	234
7	185	163	217	210	250	213	205	215
8	234	195	271	268	305	266	270	228
9	299	257	340	327	365	302	341	357
1920	269	230	312	287	318	297	310	376
1	313	267	377	360	428	386	360	355
2							315	326
3							356	308
4							246	335
5							294	352
6							281	359
7							267	368

* *Prices and Wages Report*

† *Index Numbers of Indian Prices, 1861-1926.*

CHAPTER VI

The Rise of Prices after 1861 The Evidence of Settlement Officers

The enormous rise in the price of food-grains, which is of such vital significance to the ordinary landless labourer, is a comparatively recent phenomenon As we have seen, the price of wheat at the beginning of the 17th century was 185 lbs per rupee, equal to 89 9 seers In Sikh times, if in the large cities of the Punjab wheat was selling at a maund for the rupee, it was considered rather dear than otherwise [1] After the annexation of the Punjab, in 1851, a good year, the average price of wheat in the Province was 47 seers, while in certain Divisions the price was still lower (Jhelum 48 seers, Peshawar 54 , Leia 57, Multan 61) [2] Thus in the course of about 250 years the price of wheat rose something less than 100 per cent

The price of wheat in the Punjab during the past 10 years is shown by the following statement

Harvest price of wheat in the Punjab [3]

Year	Seers per rupee
1918-19	7 2
1919-20	8 1
1920-21	6 0
1921-22	7 0
1922 23	10 7
1923-24	10 8
1924 25	7 7
1925-26	8 1
1926-27	9 0
1927-28	9 1

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[1] *Punjab Administration Report*, 1865 66, pp 91 2 [2] *Punjab Administration Report*, 1849-50 and 1850-51 [3] *Season and Crop Report, Punjab*, 1927-28

In a year of plenty, at the present time, the purchasing power of the rupee in terms of wheat, as compared with 1851, is something less than 4 annas, while in a normal year the price is about 5 times higher. This violent change has come about in the course of three-quarters of a century.

It is therefore of some interest to study the nature of the change and its causes. Price fluctuations to-day are fundamentally different from those of 75 year ago.

Prices in good years before the era of railways were very low, and the fluctuations of prices from year to year, were not infrequently great and violent. The export of food grains, though it is undoubtedly responsible in some measure for the rise of prices during the past fifty years, still exercises a steadying influence on prices in the sense that it prevents large irregular oscillations. Prices do not fall heavily when the harvests are good nor do they rise sharply when they are poor. But it was not so three-quarters of a century ago. For example the quantity of wheat sold for a rupee in Montgomery (Punjab,) fell from 47½ seers in 1848 to 23½ seers in the following year. It increased to 37½ seers in 1850 but fell to 20 seers in 1851 and rose to 52½ seers in 1852. In the town of Haripur Hazara the price of wheat in 1852 was a little less than 8 as. a maund, in 1853 it rose to a rupee. In 1860, in the same place, the price was 12 annas a maund and in the following year two rupees. There were also great variations in prices in different places at the same time. Pakpattan, Dipalpur, and Hujra are in the same district—Montgomery, but in the year 1849, while wheat sold at 42 seers a rupee in Pakpattan, the average quantity to be obtained for a rupee in Hujra and Dipalpur was 23½ seers only.

Differences in prices between two distant places were, as might be expected, still more remarkable. For example, barley sold at the scarcity price of 18 seers per rupee in Panipat in 1860, while no less than 101 seers could be obtained for a rupee in Mamdot Ilaqa.

Such differences in prices are unknown to-day Prices, of course, are not exactly the same in all parts of the country, but ordinarily they do not differ by more than the cost of transportation. In those days each place had to be more or less self-sufficient, as means of communication were few. A good harvest gave a surplus but there were no means of getting rid of the surplus, and prices fell In a bad year scarcity caused prices to rise, but there was little importation of food from outside. The sufferings of the people when scarcity amounted to famine were terrible In the 'San Chalisa' famine (1783 A. D), price of wheat in the Sialkot district rose to 18 seers, then to 6 and finally to 1¾ seers. "Numbers of people fled to Cashmere," says Mr. Prinsep in his report on the Revised Settlement of the district, (dated 1863) "and there was great mortality all over the land." In the 'Das Maha' famine of *Sambat* 1869, (1812 A.D), wheat sold at 6¼ and *Bajra* 8 seers. It was remarked that a new grass was produced over the country on which people subsisted, and they gave it the name of 'Gharoshunee,' In the next famine of *Sambat* 1890 (1833 A.D.), wheat sold at 8 and 10 seers. "The distress in this district," says Mr. Prinsep "was very great, and had been aggravated by the very heavy assessment which preceded it. People remember it as 'Murkuneewala' year from a shrub which grew abundantly, and which was mixed up with the food eaten."† Famines visit the land very frequently even now, but generally speaking it is true that deaths by starvation have become a rare occurrence, and that people are not reduced to the necessity of subsisting on shrubs and grass even in the worst famine.

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† Page 54 of the Settlement Report.

The chief feature of the early Punjab prices is the great fall which occurred in the first three years after annexation, and which was the cause of no small amount of embarrassment to the Government Fixed money assessments were substituted for grain payments in 1847, but the prices assumed for the assessment of land were too high "Collections became difficult", says Mr. Prinsep, "I had to give large remissions. and from that date, 1851, till 1858, the effects of former high settlements were felt on all sides In the Churkuree Mehal, particularly, people absconded, wells were lying neglected, and nothing short of immediate relief would have saved the irrigated tract, and to give this the new assessments were more expeditiously brought about."

The land tax was reduced everywhere "In the whole of the Punjab the reduction of the land tax may be estimated to be equal to twenty-five per cent, exclusive of any extras which may have been levied," says the *General Report upon the Administration of the Punjab for the years 1849-50 and 1850-51.* In spite of the reductions complaints on the part of the agriculturists were "loud and general." The chief cause of their distress was the fall in prices Production had exceeded consumption and there were no markets to which the surplus could be exported. The causes of agricultural distress are well analysed in the Administration Report (1849-50 and 1850-51) :—

> "For the three first years after annexation the harvests, with a few isolated exceptions, were remarkably favourable For twenty years, the agriculturists declare, they have never witnessed such crops of wheat and barley. Not only did the unirrigated lands usually under cultivation yield a particularly large return, but cultivation was greatly extended,

Lands which in ordinary seasons were seldom sown, gave large returns These circumstances, joined to the general peace and security of the country and the fact that large bodies of disbanded soldiers and discharged employees had to turn attention to agriculture for a subsistence, all contributed to cause so great an increase of produce as to reduce prices to an unprecedented extent The result of these different causes has doubtless been that production has exceeded consumption, and hence that while an abundance of food exists, there is not a sufficient market to secure its sale at remunerative prices No countries surround the Punjab to which any great quantity of grain could be exported To the west the disturbed state of Afghanistan and the difficulties and the cost of transit must prevent the export of food To the south are Sindh and Bahawalpur, the former producing more than it consumes, the latter a poor and thinly peopled tract To the east is the Jullundher Doab, densely peopled, but so fruitful in its own soil is fully to support the inhabitants To the north are the hills whose inhabitants have not the means of purchasing our surplus produce "

The writer of the report, evidently did not foresee the rise of the great export trade by sea which now carries away all our surplus food-grains to foreign lands The net-work of railways which connects the principal markets of the Punjab with Karachi did not then exist Thirty years later, however, we find a settlement officer thus predicting the future course of the price of food-grains and justifying the prices that he had adopted for assessment —

"I do not think that the adopted prices are too high They rather err on the side of lowness It is probable that the average price current of the next 20 years will show considerably higher rates The opening of the railway to Karachee and the thereby increased facility for exporting grain to Europe will most certainly tend to keep up the price of food grains in the Punjab It will prevent all accumulation of grain As soon as the price of wheat falls to the point at which it becomes profitable to export it to Europe, it will be exported and prices will hardly ever fall below this minimum "*

The price of wheat in the Punjab to-day is determined by the world price of wheat, and as the price of wheat regulates the price of inferior food grains, it may be said that the causes which detemine the price of food grains in the Punjab to-day, whether directly or indirectly, are not local but of word-wide significance

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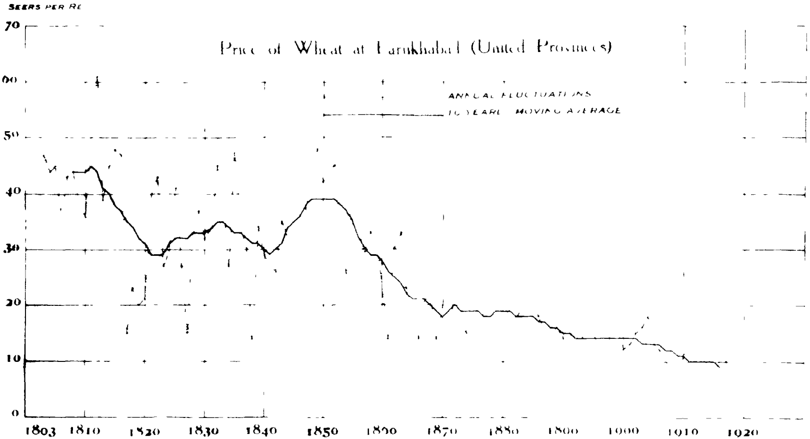
* *Report on the Revised Settlement of the Jhang District of the Punjab by E B Steedman, Settlement Officer*



Price of Wheat at Farukhabad (United Provinces)

To face p. 113

The effect of the improvement of the means of transportation, which has linked the different parts of the country together, and of the development of the export trade in wheat, which makes the price of wheat in India rise and fall with the world price, is well brought out by the accompanying Charts, showing the fluctuations in the price of wheat at Farukhabad (United Provinces) from 1803 to 1921 It will be seen that the fluctuations in price at the present time are less violent than those in the pre-railway days The moving average shows no general trend before 1850, after that year it steadily falls, showing a continuous decrease in the purchasing power of the rupee in terms of wheat The actual rise of prices began after 1861

Price of Wheat at Farukhabad, 1803—1921, in seers per rupee

Year	Price in seers per rupee	10-yearly moving average (centred)†	Deviation from moving average	Year	Price in seers per rupee	10-yearly moving average (centred)†	Deviation from moving average
1803	47			5	41	32	+9
4	41			6	27	32	-5
5	45			7	15	32	-17
6	36			8	33	33	0
7	43			9	37	33	+4
8	44	14	0				
9	38	44	6	1830	32	33	-1
				1	34	34	0
1810	36	44	-8	2	45	35	+10
1	52	45	+7	3	38	35	+3
2	61	44	+17	4	27	34	-7
3	39	41	-2	5	48	33	+15
4	45	40	+5	6	34	33	+1
5	48	38	+7	7	30	32	-2
6	47	37	+10	8	14	31	-17
7	15	35	-20	9	34	31	+3
8	23	34	-11				
9	20	32	-12	1840	29	30	-1
				1	27	29	-2
1820	21	31	-10	2	26	30	-4
1	40	29	+11	3	35	31	+4
2	43	29	+14	4	32	34	-2
3	27	29	-2	5	32	35	-3
4	30	31	-1	6	34	36	-2

Year	Price in seers per rupee	10-yearly moving average (centred)†	Deviation from moving average
7	36	38	-2
8	44	39	+5
9	48	39	+9
1850	42	39	+3
1	44	39	+5
2	45	39	+6
3	34	38	-4
4	25	37	-12
5	40	35	+5
6	34	32	+2
7	29	30	-1
8	33	29	+4
9	31	29	+2
1860	24	28	-4
1	14	26	-12
2	30	25	+5
3	33	24	+9
4	23	22	+1
5	19	21	-2
6	14	21	-7
7	21	21	0
8	21	20	+1
9	14	19	-5
1870	20	18	+2
1	24	19	+5
2	18	20	-2
3	17	19	-2
4	15	19	-4
5	22	19	+3
6	28	19	+9
7	17	18	-1
8	15	18	-3
9	14	19	-5
1880	18	19	-1
1	19	19	0
2	18	18	0
3	19	18	+1
4	21	18	+3
5	21	18	+3
6	18	17	+1
7	15	17	-2
8	14	16	-2
9	16	16	0
1890	14	15	-1
1	13	15	-2
2	14	14	0
3	14	14	0
4	16	14	+2
5	15	14	+1
6	11	14	-3
7	10	14	-4
8	16	14	+2
9	16	14	+2
1900	12	14	-2
1	13	14	-1
2	15	14	+1
3	16	13	+3
4	18	13	+5
5	13	13	0
6	12	13	-1
7	10	12	-2
8	8	12	-4
9	9	11	-2
1910	11	11	0
1	13	10	+3
2	12	10	+2
3	11	10	+1
4	9	10	-1
5	8	10	-2
6	10	9	+1
7	10		
8	7		
9	6		
1920	7		
1	6		

When did the rise in food-grain prices begin in the Punjab?

In my *Essays on Indian Economic Problems*, published in 1922, Chapter IV, I attempted to show that the

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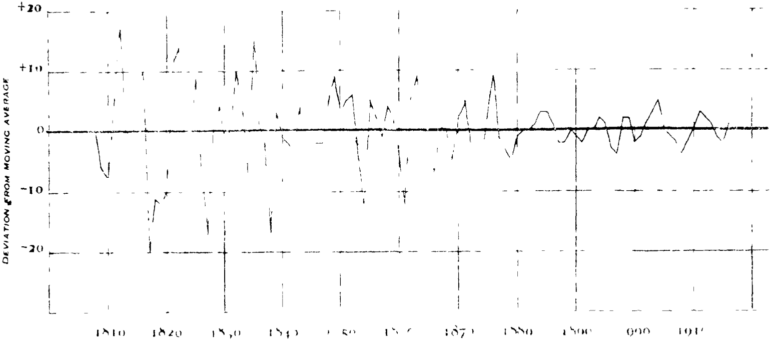
† Centred by of a two-yearly moving average.

Price of Wheat at Farrukhabad. Short time Oscillations

(ELIMINATING THE GENERAL TREND)



To face p 114

price of food-grains in the Punjab began to rise after 1851 Prof Myles has taken exception to this view The subject is of some importance, as the course of food prices all over India since 1861 has been the same as in the Punjab, and the conclusions which are valid for the Punjab are also valid for the rest of India

On page 44 of his paper † in the Indian Journal of Economics, Vol VI Part I, Prof Myles sums up his conclusions regarding the movement of food prices in the Punjab from 1861 to 1920 He believes that the general level of prices remained remarkably stable from 1861 to 1887, in spite of years of severe famine and years of plenty—a conclusion which as he says, is "diametrically opposed to that generally accepted" and which I reached in my book mentioned above

Prof Myles's enquiry begins from 1861 and there is no reference to prices before 1861 in his paper. In appears to him that the price of food grains began to rise in the Punjab after 1887, and he, in part, accounts for it by connecting it with "the improvement of communications in the province, and the linking up of its markets with those of the west * If he had examined food prices in the Punjab before 1861, he would have found that this influence began to work much earlier, and in fact the great rise in Punjab food prices began after 1861

I propose to show, first, that food prices in the Punjab before 1860 were much lower than the prices after 1860, and second, that between 1861 and 1887 food prices in the Punjab did not remain remarkably stable but showed a marked upward tendency.

My method of inquiry will be twofold In the first place I propose to review the Settlement Reports relating to this period Prof. Myles completely ignores them The Settlement Officer may not be a trained economist But he is a practical man, and when he examines price statistics he has a practical end in view When a new settlement is made, and a higher assessment is proposed, the Settlement Officer must state his grounds for proposing it Now the rise of prices is one of these grounds, and if we find a Settlement Officer justifying the higher assessment proposed on the ground that prices had risen, it is reasonable to assume that prices did actually rise, unless we can show that the Settlement Officer misinterpreted the facts

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† The paper has been reprinted by the Board of Economic Enquiry, Punjab, Rural Section

* P 45,

To the people of the province also, upon whom higher assessments were imposed in this period, the question of the rise of prices was a practical question One may show by means of a smoothed curve that food prices remained remarkably stable from 1861 to 1887, but, as we shall see, that was not the view taken of the movement of prices in this period by those who imposed higher assessments and those who paid them

The verdict of the Settlement Officer, therefore, is important, and it cannot be lightly ignored because it conflicts with the tendency of a smoothed curve

Jullundur District

Mr W E Purser, in his Final Report on the Revised Settlement of the Jullundur District, published in 1892, thus refers to the course of prices in this district

"The general result was found to be that in the first decade after the Regular Settlement (completed in 1851) prices fell off greatly, but after that recovered, and have tended to rise higher and higher since.(1)"

Mr Purser wrote a note on prices in the Jullundur District from 1846 to 1882, which has been published as Appendix XII to the Assessment Report of Tehsil Nawashehr, 1883 He divides his statistics of prices into four periods of which the first extends from 1846 to 1861, "till the great rise in prices began'[1], to quote Mr Purser's own words, and the second from 1862 to 1882 He regarded the returns of prices relating to the chief crops of the district, wheat, gram, maize, cane, cotton and *moth* as "fairly correct" District averages for the principal food grains in quinquennial periods from 1846 to 1882 are given below —

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(1) P 155.

Seers per rupee

	Wheat		Gram		Barley		Maize		*Jowar*	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
1846-51	31	40	33	42	37	51	46	49	48	59
1851 56	48	58	64	76	64	100	63	81	62	56
1856 61	62	56	66	76	65	78	53	65	48	53
1861 66	30	38	40	48	40	58	43	47	38	38
1866 71	22	25	19	30	27	32	27	34	21	23
1871-76	26	33	33	39	32	42	34	39	30	34
1876 82	22	26	26	36	31	33	25	30	26	28

(a) Average prices of trade transactions
(b) Average prices received by agriculturists

In will be seen that prices in the quinquennia 1861-66 and 1886-71 were higher than in 1856-61 or 1851-56 Prices fell in 1871-76, but the level was still higher than in 1861-66 In 1876-82 prices were higher than in the preceding quinquennium, and much higher still than in the quinquennium 1861-66.

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(1) Appendix XII to the Assessment Report of Tehsil Nawashehr, 1883, Clvi, Para 1.

Average district prices from 1846 to 1861 (15 years) are compared below with the average of 21 years from 1862 to 1882

Average received by agriculturists averages

	1846-61	1862-82
Wheat	51	31
Gram	65	38
Barley	78	38
Maize	63	38
Jowar	48	28

Having th figures before him, it may well appear to Mr Purse that the great rise in prices began after 1861

Gujranwala

The revision of Settlement of the Gujranwala district took place in 1889—94 and the Report was issued in 1894 Mr (later Sir) M F O'Dwyer was the Settlement Officer He tells us that the enquiry into prices was carried back as far as the year 1853, from which full statistics were available, with the view of determining not only the average Gazette prices, but the average harvest prices realised by agriculturists, which are more important for assessment purposes The books of the leading traders at the chief centres in each tehsil were carefully examined, and unbroken series of prices of the chief food-grains and agricultural produce were obtained. It was also found possible to discriminate between the prices in transactions between agriculturists and traders, *i e*, harvest prices, and the ordinary retail prices The results of the enquiry are shown in the following table —

Prices in seers per rupee

Name of crop	Gazette Prices 1853—67	Harvest prices 1853—67	Prices assumed at Settlement 1867—68	Gazette prices 1873—88	Harvest prices 1873—88	Per cent of increase of col 5 on col 2	Per cent of increase of col 6 on col 3	Prices assumed for re-assessment	Increase per cent col 9 on col 4	Average prices 1888-92	
										Gazette	Harvest
1	2	3	4	5	6	7	8	9	10	11	12
Wheat	32	36	34	20	24	60	50	26	3	18	21
Barley	54	55	51	34	38	60	45	40	27	23	31
Gram	47	49	41	27	33	75	49	35	17	25	27
Maize	39	47	40	26	28	50	68	32	25	20	23
Jowar	37	45	44	27	31	37	45	35	28	20	25
Bajra			35					30	17		

It should be noted that the prices assumed for re-assessment were substantially lower than the average prices in 1888-92, but substantially higher than the prices assumed at the Settlement of 1867-68

"From these statistics it appears," says the Settlement Officer, 'that the Gazette prices for the 15 years (1873-88) preceding this Settlement as compared with the Gazette prices for the 14 years (1853—67) preceding last Settlement show an increase of about 65 per cent for Rabi and 40 per cent for Kharif crops, while the harvest prices show an increase of 48 per cent. for Rabi and about 45 per cent for Kharif crops The value of the Rabi standing to the Kharif as 3 to 2 it follows that harvest prices for the latter period have risen 47 per cent. as compared with the former'[1]

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(1) P 51.

The Settlement Officer points out that prices in 1873—88 were influenced by railway communication and the rise of the export trade "Even if the latter influence," he adds, "be now considered a permanent one, and it is probable that every year England will look more and more to India for the supply of food-grains—dearth owing to poor harvests will be rare in future owing to the greater area under cultivation and the increased security of outturn due to the canal."[1]

Amritsar District

Mr J A Grant, Settlement Officer, in his Final Report on the Revision of Settlement (1888-93) of the Amritsar District, refers to the "sustained rise of prices, rent and letting value of land"[2] as one of the reasons for the enhancement of revenue He compared average prices during 16 years ending with 1889 (excluding 1879) with average prices during 16 years ending with 1865 (excluding 1861), and estimated the rise of prices in 24 years, 1865—89, to be about 60 per cent Objection was taken to Mr. Grant's comparing prices in 1850—65 with prices in 1874—89 in order to determine the extent of the rise of prices for purposes of assessment The view taken by the Lieutenant-Governor in his review of the Assessment Report of the Ajnala Tehsil, 1892 (Amritsar District) was that the rise of prices which could be counted on for assessment purposes was not much over 30 per cent Mr Grant pointed out in his Settlement Report of Amritsar District that the Lieutenant-Governor had considered the rise of prices up to the year 1877 only, and not during the whole period in which the rates assumed at the last Settlement worked

It is not necessary for us to take part in this con-

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(1) P 52 (2) P 30

troversy. It is sufficient for us to note that between 1865 and 1877 the Lieutenant-Governor was prepared to assume a 30 per cent rise of prices as compared with the prices assumed at the preceding Settlement

Jhelum

Mr R G Thomson in his Report on the Second Regular Settlement of the Jhelum District (1874—80) compares the average prices ruling in each Tehsil of the district from 1861—75 with the average prices of the period 1853—60, and thus comments on the result 'Comparing therewith (1853—60) the average prices ruling in each Tehsil from 1861—75, it will be seen how much the incidence of the Regular Settlement as it stood when first made, has been lightened by the course of prices during this period Prices, with merely temporary interruptions, have moved upwards while the Land Tax has stood still [1] Prices in Jhelum are reproduced below

In seers per rupee

	Wheat	Gram	*Bajra*	*Moth*
1853—60	49	46	55	67
1861—65	34	31	36	44
1866—70	24	22	25	27
1871—75	28	25	35	41
1876*	36	50	46	45

The figures clearly show the rise of prices after 1861. Even in 1876, a year of exceptional plenty, all prices excepting that of *bajra*, were higher than the average prices in 1853—60.

The average prices in 1861 to 1875 are compared below with the average for 1853—60

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(1) Pp 109-112

* 1876 shown separately in the Settlement Report

Seers per rupee

		Wheat	Gram	*Bajra*	*Moth*
Pind Dadankhan	1853–60	40	44	50	51
	1861—75	28	27	31	32
Jhelum	1853—60	49	46	56	67
	1861—75	29	26	29	33
Chakwal	1853–60	47	56	52	57
	1861—75	27	33	31	31
Talagang	1853—60	50	62	61	60
	1861 75	31	39	36	45

Ludhiana —A very interesting note on the fluctuations of prices in the Ludhiana District from 1840 to 1879 written in 1880 by Mr T Gordon Walker, Settlement Officer, is appended to the Final Report on the Revision of Settlement of the Ludhiana District, 1878—83. The Settlement Officer accepts the following definition of a rise in prices given by Mr Carpenter in a memorandum on the subject of variation of prices (Deccan Rents Enquiry) "A permanent rise, when it does occur, is not a clearly defined and tangible event taking place within a period of two or three years It takes place through a series of fluctuations, the general level of the last fluctuation of the series being higher than that of the first The object of the Settlement Officer was to determine whether any rise of prices in this sense had taken place in his district in the period 1840—79

His detailed review of prices on the basis of price statistics for the four tehsils of his district (figures for the Ludhiana Tehsil are given below) shows that during the ten years, 1850—59 prices remained at a low level, falling steadily till the end of the period "The period of five years—1860 to 1864," he says, "is one of transition, *prices being on the rise*" Bad seasons raised the prices of rabi 1860. Then followed failure of autumn rains and loss of the harvests kharif 1860 and rabi 1861, resulting in a famine. Prices fell thereafter but, says the Settlement Officer, "*they never quite returned to their old position. From 1861 there is no tendency to return to the old level. There are oscillations, but they are over a higher line than before.* If we exclude the scarcity year of 1869, we find that in Ludhiana between 1865 and 1877 the price of wheat varied between 37 and 28 and averaged 31. It is interesting to note the sudden recovery of prices after the scarcity of 1861-62 and the more gradual return after 1868—69 when the means of communication were more complete."[1] (*Italics mine*)

The following table extracted from the statement about prices, given by the Settlement Officer, shows the fluctuations in prices in Tehsil Ludhiana from 1850—54 to 1875—79.

Prices in Tehsil Ludhiana

Seers per rupee

	Wheat		Gram		Barley		Maize		*Jowar*	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
1850-54	52	45	61	46	69	56	66	68	95	54
1855-59	63	59	84	87	83	97	75	73	94	83
1860-64	35	35	39	42	48	48	37	38	37	42
1865-69	27	27	31	33	38	37	31	32	35	34
1870-74	29	25	32	28	43	35	35	32	41	31
1875-79	28	24	33	32	38	37	30	26	32	27

(a) Prices paid to agriculturists
(b) Harvests prices of traders

The Settlement Officer's explanation of the causes of the rise of prices is given in the footnote.*

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(1) p cit

*" Into the causes of the general rise in the prices of agricultural produce throughout India we cannot here inquire. Had the district continued in a state of isolation, and the means of communication through it remained as imperfect as they were at the time of the Regular Settlement, there would

***Shahpur District*.**—Mr J. Wilson, Settlement Officer, made an enquiry into prices in this district in 1888. The results are summed up in the table given below He found that in a series of years the averages for the different towns did not differ very much and he considered it sufficiently accurate to take their average as representing prices for the whole district The harvest prices thus ascertained were as follows —

Period		Wheat	*Bajra*	*Jowar*	Gram	Barley
Fifteen years	1850 - 64	41	47	52	51	57
Thirteen years	1865—77	26	30	34	32	38
Ten years	1878 - 87	21	25	28	27	34

He thus comments on these figures —"Taking the average of the fifteen years, 1850—64, which cover the period of Settlement operations, as representing the prices of last Settlement, and the average of the last ten years as representing the prices now prevalent, it may be said that the quantity of each article which would then have fetched Rs 100 in silver, now fetches as follows —Wheat

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still have been a rise of prices But the improvement in communications is the principal cause which has operated to produce, or, at all events, has accentuated the rise in this district to the level of the last fifteen years The opening of the Sindh, Punjab and Delhi Railways, which took place about twelve years ago, has, by extending the market for the produce of the district once and for ever, we might say, brought up prices The area of the district is only 1,378 sq miles, and it is traversed by about 35 miles of railway and 125 miles of metalled road The principle that supply follows demand has been establishing itself in practice, and nothing short of a decided fall in the value of agricultural produce all over India, and, we may add, Europe, will make prices recede towards their old level The means of communication in the district are now so good that a demand in any part of India is at once felt throughout it and answered Were prices to fall much now, it is pretty certain that a good deal of the wheat of the district would find its way eventually into European markets, and the importance of wheat is much greater than its mere acreage denotes, for it is the grain of export, and is cultivated on the best irrigated lands, which yield three times as much as unirrigated " (Para 13 of the Note on Prices appended to the Settlement Report, Ludhiana District, 1878—83)

Rs 195, *Bajra* Rs 188, *Jowar* Rs 186, gram Rs 189, barley Rs, 184 That is to say, *the principal food grains*—wheat, *Bajra*, *Jowar*, gram and barley, which together occupy three-fourths of the area under crops, *have each increased in money value more than 80 per cent since last Settlement* and the price of wheat which is by far the most important, has *practically doubled*" (Italics Mr Wilson's)[1]

We have reviewed in some detail the movement of food prices in Jullundur, Gujranwala, Amritsar, Jhelum, Ludhiana and Shahpur My references to other districts will be briefer No new facts are revealed by a study of other Settlement Reports relating to this period The course of prices in the different parts of the province has been similar—low prices before 1861, and the gradual rise of prices after that year It should be borne in mind that when a Settlement Officer speaks of the rise of prices in a given period as compared with another period, he is comparing average prices in the two periods and not prices at the end of the period as compared with the prices at the beginning

Ferozepore—The Final Report on the Revision of Settlement (1881—89) of the Northern part of the Ferozepore District refers to about 45 per cent rise in the price of grain since 1853-54 in the tract under Settlement (p 9)

The Final Report on the Revision of Settlement (1889—91) of the Muktsar Pargana and Mamdot Jagir of the Ferozepore District refers to about 40 per cent rise in the average prices of grain between 1872 and 1889 (p 3)

In his Report on the Regular Settlement of the Muzaffargarh District, 1873—80, the Settlement Officer, Mr. O'Brien, thus comments on the movement of prices in the Muzaffargarh District between 1851-55 and 1876-77 —"During the 23 years prices were lowest in the first five years, and rose generally during the next ten, falling again during the last eight years, but not so much as to reach the low prices of the first five years Since 1877 prices have risen very much Wheat is selling in 1881 at 13 seers per rupee " (P 110)

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[1] Final Report of the Revision of Settlement of the Shahpur District 1887—94 p 9

Montgomery District —In the Report on the Revised Settlement of the Montgomery District, published in 1878, Messrs C H Roe and W E Purser, Settlement Officers, give statistics of prices in this district from 1838 to 1871 Their conclusions as regards the rise of prices are summed up thus —

‘ The period of 15 years from 1842 to 1856 may be looked on as that the prices of which would have been regarded at last Settlement and the second period from 1856—71, as subsequent to last Settlement The percentage of rise in the second period, of average prices over those of the first period, is as regards—

Cotton	37 per cent	*China*	37 per cent
Jowar	28 per cent	Wheat	37 per cent.
Rice	22 per cent	Gram	15 per cent
Kagni	39 per cent		

" The tendency of prices since has been towards a fall It is not likely that any serious fall will take place while there are facts which make a further rise seem possible ’ (P 155)

Mr (later Sir) D C J Ibbetson, in his Report on the Revision of Settlement of the Panipat Tehsil and Karnal Pargana of the Karnal District (1870 -80) thus comments on the movement of prices in the tract under Settlement between 1850 and 1871 —

"The fifth period from 1850 to 1855, is marked by a sudden and extensive fall in all prices which continued to 1858, and this must, I fancy, have been owing to the opening out of the Punjab, and to its surplus stuffs pouring into a market from which no railway existed to carry them away. The famine of 1859-60 only introduced the cotton famine, which began in 1861 and continued for five years, during which time it is estimated that £63,000,000 sterling of silver was poured into Bombay This enormous addition to the circulation of the country drove up prices with a rush, and before equilibrium had been restored, the introduction of steam carriage from Delhi threw open the markets of the world to India, and perpetuated the high level which had been reached The famine of 1869 created a temporary disturbance, but for the last five years the seasons have been fair, the opening of the Punjab Railway in 1870 has completed the connection between Lahore and Bombay, and prices have stood with an extraordinary steadiness at what may be considered their normal rates Since then the drought of 1877—80 has raised prices considerably, but the rise is probably only temporary" (P 283)

Rawalpindi District—The Final Report on the Revised Settlement of the Rawalpindi District 1880—87, by F. A Robertson, Settlement Officer thus refers to prices after 1860 —

"It seems undeniable that prices are both higher and better established than they were before the year 1860, and agriculturists have now far greater facilities for converting their produce into money than existed 30 years ago" (P 143)

Gurdaspore District—There was a Revised Settlement on the Gurdaspore District in 1887—92 by Mr. (later Sir) L W Dane The difference between the prices assumed in 1865 and those assumed by the Settlement Officer in 1888, to quote his own words, was "enormous" (P 39 of the Settlement Report)

The evidence of Settlement Officers regarding the movement of food prices in the Punjab after 1861 is important Any one who had this evidence before him would come to the conclusion that the prices of food grains in the Punjab before 1861 were comparatively low and that they began to rise after 1861

CHAPTER VII

THE RISE OF PRICES AFTER 1861 STATISTICAL EVIDENCE

Prof Myles's conclusions regarding the movements of Punjab food-grain prices during the whole period 1861—1920 are entirely based on the shape of his smoothed curve It is seen that between 1865 and 1887 the smoothed curve is nearly a straight line, hence the conclusion that, in this period, the general level of the price of food-grains in the Punjab remained remarkably stable Between 1887 and 1896 the curve is seen to rise, and between 1896 and 1905 the curve again becomes a straight line, from which Professor Myles concludes that the rise in the *general* level of food prices set in about 1887 and continued till 1896, after which stability set in which continued until about 1905

A smoothed curve, it should be remembered, is obtained in an artificial manner It is useful for showing the general trend of a movement, but for no other purpose It is never more important than the original data, and in interpreting it care should be taken that the meaning of the original data is not lost. Kelly says —

"Since the average of two unequal numbers is never as large as the larger or as small as the smaller of the two, the smoothing process tends to flatten a curve out and lower modes If the data are particularly irregular, it is frequently desirable to do this to reveal a general trend, but it should be borne in mind that something of significance is always lost in the process of smoothing Numerical calculations should never be made from smoothed data, as a spurious consistency in the findings may be introduced and significance of the original data may be hidden.'[1]

It deserves to be emphasized that smoothing may cause stability to appear where, according to the original data, there is none

For example, suppose the yearly fluctuations of prices between 1861 and 1887 show that while during the whole peroid prices rose and fell, they never returned to the level of the average prices in 1862—66 In the process of smoothing this important fact may be overlooked and yet this one fact would be a conclusive proof that after 1861 prices had a marked upward tendency The stability of the smoothed curve in such a case would be ' spurious ' stability, which conceals the significance of the original data.

Further, smoothing removes short time fluctuations **" To study short time changes therefore,"** as King says, **" the original historigram and not the trend must be studied."** [2]

Suppose the daily mean temperature of a certain place has varied in a month as shown in column 2 of the following table —

Table

(¹) *Statistical Method* by T L Kelly, p. 29

(²) *Elements of Statistical Method by* W. J. King, p. 171 Printed as in the original

February	Daily mean temperature Fahrenheit in Degrees	Moving average, 7-day grouping
1	61	
2	66	
3	63	
4	75	65
5	66	65
6	63	66
7	59	68
8	63	69
9	70	70
10	80	71
11	81	72
12	71	71
13	72	76
14	65	77
15	75	77
16	88	78
17	86	79
18	82	82
19	77	84
20	80	
21	85	
22	90	

A moving average of 7 days shows the general trend but it is no guide to the study of daily fluctuations of the mean temperature They have been eliminated by means of the moving average, and no one is entitled to say that because the moving average rose from 72 to 77 between 11th February and 14th February, the general level of mean temperature was rising from 11th February to 14th February The actual daily mean temperature, as is seen, fell from 81 degrees on 11th February to 65 degrees on 14th February

We must take care not to confound the general trend with short time fluctuations But this is exactly what we do when inferences are drawn about steadiness or unsteadiness of prices in particular years from the curve showing the general trend of prices Suppose our prices between 1861 and 1884 rose and fell periodically in a cycle of ten years as shown in column 2 of the table given below —

	Index Number of prices	Ten-yearly moving average (centred) [1]
1861	75	
1862	75	
1863	75	
1864	75	
1865	150	
1866	250	108
1867	140	108
1868	100	108
1869	80	108
1870	60	106
1871	75	97
1872	75	88
1873	75	86
1874	75	86
1875	100	86
1876	120	86
1877	105	86
1878	95	86
1879	80	86
1880	60	
1881	75	
1882	75	
1883	75	
1884	75	

The ten-yearly average shows stability between 1866 and 1869, a fall commencing in 1870 and stability again between 1873 and 1879. The average shows this, but any one who, guided by the average, said that the general level of prices fell in 1870, or was stable from 1873 to 1880, would be wrong. Our original data show that nothing is farther from the truth. Between 1871 and 1874 prices were absolutely stable, and between 1874 and 1880 prices moved irregularly.

That it is wrong to infer from a smoothed curve that prices commenced to rise or fall in particular years may also be shown in another way.

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(1) Centred by means of a two yearly moving average.

When cyclical fluctuations take place about a uniform level, or about a line ascending with a uniform slope, the length of the cycle and the magnitude of the fluctuations being constant, a moving average having a period equal to the period of the cycle will give a straight line The same result will be obtained when the moving average has a period which is a multiple of the period of the cycle. A twenty-yearly moving average will show the same trend as the ten-yearly moving average, when the period of the cycle is ten years This is shown by the table given below —

Cyclical data	Ten yearly moving average (centred) *	Twenty-yearly moving average (centred) *
20		
22		
26		
30		
36		
40	27·6	
32	27·6	
28	27·6	
24	27·6	
18	27·6	
20	27·6	27·6
22	27·6	27·6
26	27·6	27·6
30	27·6	27·6
36	27·6	27·6
40	27·6	27·6
32	27·6	27·6
28	27·6	27·6
24	27·6	27·6
18	27·6	27·6
20	27·6	
22	27·6	
26	27·6	
30	27·6	
36	27·6	
40		
32		
28		
24		
18		

* Centred by means of a two-yearly moving average.

If the magnitude of the fluctuation is not constant, the length of the cycle remaining the same (10 years), a twenty-yearly moving average, while showing the same general trend as the ten-yearly moving average, will give us a smoother curve. *But the point to which I wish to draw attention is that the two curves will not rise or fall precisely in the same years*

In Table V I have given in column 2 Prof Myles's index numbers of prices showing annual fluctuations, and in Column 3 his ten-yearly average Column 4 shows the 20-yearly moving average (centred)

The twenty-yearly curve would be smoother than the ten-yearly curve. Further, it will be seen that the twenty-yearly average rose steadily from 1880 to 1888, fell one point in 1889, and then rose continuously till the end The ten-yearly average, on the other hand, after rising in 1882 returned to the level of 1879 in 1886, rose from 1887 to 1896 and remained stable from 1896 to 1905

Which of these two averages shall we trust as a guide to fluctuations in the general price level between particular years ?

The answer is 'Neither' By smoothing the curve we have eliminated yearly fluctuations The general trend alone remains individual years have disappeared from our view

The moving average may rise or fall in a particular year not because of the rise or fall of prices in that year, but because of the influence of prices in the five or ten preceding or following years

It thus appears that when we wish to determine the precise point of time when prices began to rise or fall, we must consult the original data, and not the general trend of prices as shown by the smoothed curve.

Price Statistics.

The prices of food grains (retail) from 1861 to 1920 have been taken from the well known official publication *Prices and Wages in India* The 23rd issue published in 1906 gives the average annual prices of the five food grains, wheat, barley *jowar*, *bajra* and gram, for the whole province from 1861 to 1905 in seers per rupee. The figures for 1906 to 1920 have been taken from the 36th issue, but it was necessary to convert prices given in rupees per maund into seers per rupee I have preferred to give all prices in seers per rupee as retail prices of food grains are commonly expressed thus in the Punjab and other parts of India

The prices of wheat, barley, *jowar* and maize, from 1841 to 1860, have been taken from two diagrams showing the fluctuations in the prices of the chief articles of agricultural produce from 1841 to 1856, and from 1857 to 1874, given in the Punjab Administration Report for 1874-75 The diagram showing the fluctuations in prices from 1841 to 1856 has been repeated from the Punjab Administration Report for 1872-73 It is stated "The prices shown in this diagram are calculated on the averages of 16 districts only, information regarding the remainder not being available for the years in question" The prices shown in the second diagram represent average prices for the whole province The diagrams are clearly drawn, and no difficulty was experienced in interpreting them

I should have preferred to get actual figures of prices, instead of having to read them from curves But these figures were not available. I have, however, no reasons whatever to doubt the accuracy of the diagrams, and the information which they give, is of value in *showing the general fluctuations in prices before 1861.*

It is not stated on either chart whether the prices shown are wholesale or retail But they are not retail prices. When we compare the price of wheat from 1861 to 1874, as shown by the second diagram, with the retail price of wheat as given in the *Prices and Wages Report*, 23rd issue, we find that in all cases, except two, the prices as given in the *Prices and Wages* were higher.

Price of Wheat in seers per rupee

	As shown in chart II given in the Punjab Administration Report for 1874-75	As given in the "*Prices and Wages*" *23rd Issue (retail)*	Excess of the figures in Column 2 over the figures in Column 3
1861	17·75	17·46	2 per cent.
1862	27·50	26·98	2 ,, ,,
1863	31·50	29·95	5 ,, ,,
1864	27·50	27·10	,,
1865	23·00	21·73	6 per cent
1866	23·50	22·83	3 ,, ,,
1867	22·50	21·07	7 ,, ,,
1868	18·50	16·24	11 ,, ,,
1869	14·25	11·99	18 ,, ,,
1870	16·00	15·84	1 ,, ,,
1871	21·50	21·08	2 ,, ,,
1872	20·00	20·40	,,
1873	21·50	22·18	,,
1874	24·00	22·95	4 per cent.

It will be seen that except in two cases, 1868 and 1869, (both famine years) the quantity of wheat obtainable per rupee, according to the diagram given in the Punjab Administration Report for 1874-75 was never more than 7 per cent greater than the price (in seers per rupee as given in the *Prices and Wages Report*. In order to make the price of wheat before 1861 comparable with the price since that year, I have reduced the figures for 1841—60 by 10 per cent in each case. The prices thus obtained I have called "adjusted prices."

The actual retail price of wheat before 1861 may have been higher or lower than my adjusted prices, we have no means of determining this, and I am not basing any argument regarding the *extent* of the rise of prices after 1861 on my "adjusted prices." But there is no objection to the use of these prices for showing *the general trend of prices* before 1861

To determine the extent of the rise of prices between 1861 and 1920 I have used the average of prices in 1861—65 as the base This is a fairly normal or typical period, excepting for the fact that the year 1861 was affected by famine I did not wish to search for a basic period after 1870, when prices had already begun to rise. The decennium 1861—70 was rejected because it includes 4 years in which prices were abnormally high on account of famine (1861, 1868, 1869 and 1870)

It may be stated that the general trend of a price's curve would remain the same, whatever period of years was chosen as the base But the extent of the rise of prices, when different years are taken as basic periods is different The average prices in 1861—65 are a better base than average prices in the decennium 1873—82 for an enquiry whose object is to determine the extent of the rise of prices since 1861, *for average prices in* 1873—82 *were already* 26 *per cent higher than in the quinquennium* 1861—65 [1]

Whether we compare the adjusted price of wheat in 1851—60 (Table I) with the price of wheat after 1861, or consider the prices given in the Settlement Reports reviewed above, it is unquestionable that prices in 1851—60 were much lower than the prices after 1861 We may disagree about the extent of the rise of prices after 1861

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(1) The average prices were

	Wheat	Barley	*Jowar*	*Bajra*	Gram
1861—65	24.72	39.23	32.93	29.81	31.87
1873—82	20.15	30.17	25.91	23.34	25.77
The rise of prices in 1873—82 as compared with 1861—65.	122.7	130.0	127.1	127.7	123.7

Or an average rise of 26.2 per cent for the five food grains

as compared with the decade ending in 1860, but the fact that prices before 1861 were lower cannot be denied.

Professor Myles's main contention is that between 1861 and 1887 prices remained remarkably stable. How far is this true?

The table given below shows the lowest level touched by the average of the five grains in particular years or periods of years in each decade between 1861 and 1920 —

1861—65 = 100

Decade	Year of lowest prices	Index Number	Triennium of lowest prices	Index Number	Quinquennium of lowest prices	Index Number
1861—70	1863	79	1862—64	88	1862—66	97
1871—80	1876	96	1875—77	102	1873—77	106
1881—90	1885	99	1883—85	102	1882—86	109
1891—1900	1891	105	1893—95	127	1891—95	147
1901—10	1901	130	1903—05	148	1901—05	154
1911—20	1911	182	1911—13	213	1911—15	238

It will be seen that prices were lowest in the decade 1861—70 They rose and fell in subsequent years, but they never returned to the lowest level touched in the decade 1861—70

The annual average and the quinquennial average are seen to rise continuously, that is, in years of plenty in each successive decade they were higher than in the preceding decade The triennial average for 1883—85 was the same (102) as for 1875—77, but the level was 14 points higher than the lowest level touched in 1862—64 (88)

We may next consider the fluctuations in the price of wheat, the grain of export. Wheat shows even better than the general average of the five grains the influence of the causes which began to raise prices after 1861. The following table shows the year or periods of years in which the price of wheat was lowest in each decade between 1861 and 1920 —

Decade	Year of lowest price	Price in seers per rupee	Index Nos 1861 65 = 100
1861—70	1863	29 95	83
1871—80	1876	25 75	95
1881—90	1885	21 91	99
1891—1900	1894	24 21	102
1901—10	1901	17 75	139
1911—20	1911	13 87	178
	Triennium of lowest price		
1861—70	1862—64	28 11	88
1871—80	1875—77	24 70	100
1881—90	1883 85	23 83	104
1891—1900	1893—95	19 91	124
1901—10	1902—04	16 71	148
1911—20	1911—13	12·18	198
	Quinquennium of lowest price		
1861—70	1862—66	25 80	96
1871—80	1873—77	23·84	104
1881 90	1882—86	22 47	110
1891—1900	1891—95	17 64	140
1901—10	190—405	16·08	154
1911—20	1911—15	11 34	218

It will be seen that the lowest price, whether annual, triennial or quinquennial, in each successive decade was higher than in the preceding decade.

These figures do not show that the price of food grains in the Punjab remained remarkably stable between 1861 and 1887 and comparatively stable between 1896 and 1905. The rise in prices is seen to be continuous, but the rate of increase is not the same in different periods.

It cannot be denied that a considerable rise of prices took place in the decade 1871—80 as compared with the decade 1861—70 The annual average index number of wheat stood at 95 in 1876 as compared with 83 in 1863 (the general average rose from 79 in 1863 to 96 in 1876) Between 1876 and the next year of plenty, 1885, the rise of prices was less rapid, 4 points in the case of wheat and 3 points in the case of the general average The explanation of this is simple The improvement of communications which enabled food grains to be exported from the Punjab even before 1870 led to a considerable rise of prices between 1863 and 1876 But prices tended to become steadier when this influence became of a more permanent nature—hence the less rapid rise of prices between 1876 and 1885 But it should not be forgotten that between 1861 and 1887 prices were never remarkably stable They were rising throughout this period, more rapidly at first and less rapidly later on.

This is what our original data show, and when we wish to determine when prices began to rise or to fall, the original data alone must be consulted The general trend is of no value for this purpose

The twenty-yearly average (of the five food grains) rose steadily from 134 in 1871 to 139 in 1878 and then fell to 137 in 1879 (Table III) But it would be absurd to say that the general level of prices fell in 1879 because the twenty-yearly average was 2 points lower in 1879 than in the preceding year. We must not forget that the twenty-yearly average set down against the year 1879 is the average price in the twenty years of which the year 1879 is only the middle point While it is a link in the chain that shows the general trend of prices, it does not tell us anything about prices in 1879. As a matter of fact we know that prices in 1879 were abnormally high on account of famine, the index number of the average of the five grains having risen in that year to 205

Similarly the ten-yearly average fell from 136 in 1876 to 134 in 1879, while the annual average rose from 96 to 205. It will be again absurd to say that the general level of prices was falling from 1876 to 1879 when actual prices, as is seen, were rising under the influence of a very severe famine

The failure of prices in each successive decade to return to the lowest level touched in the preceding decade shows "a marked upward tendency" in the price of food grains after 1861

The most important cause of the failure of prices to return to the old level after 1871 was the development of communications Prices tended to become more independent of local conditions as the Punjab became more and more closely connected by means of the railway with other Provinces and the ports

Prof Myles refers us for a short summary of the progress of railway construction in the Punjab to Mr Calvert's "Wealth and Welfare in the Punjab' Mr Calvert's account is a summary of a note on railways in the Punjab Administration Report for 1911-12, with one addition Mr. Calvert says —" Through communication with Calcutta and Bombay was established in 1883' (p 53). This is incorrect.

As early as 1865 passengers and goods could be booked through between Amritsar and Karachi* Through communication between the Punjab and Calcutta and the Punjab and Bombay was established in 1870†

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*"By arrangements concluded between the Traffic Managers of the Sind and Punjab Railways, and the Superintendent of the Indus Flotilla, passengers and goods can now be booked through between Amritsar and Karachi" (Punjab Administration Report for 1864-65, p 85).

†"A section of Railway between Jalandhar and Phillor, 24 miles in length, was opened on the first day of the year. On the same date arrange-

Any one who knew that would be surprised if he did not find an upward tendency in the price of food grains in the Punjab after 1865

The influence of the export trade in keeping up prices is referred to in several Administration Reports of this period The earliest reference is in the Administration Report for 1865-66, where the " steady increase " in the price of wheat is ascribed to increased demand and " the opening out of new markets"[1]

The Punjab Administration Report for 1871-72 thus comments on the connection between prices in the Punjab and other provinces

"There can be no doubt that the prosperous grain harvest of 1871-72 in the North-Western Provinces made prices easier in the Punjab, when there is a demand for grain in other provinces, the Punjab prices always rise, even though the supply be abundant" (p 152)

The spring crop of 1873-74 was "a most abundant one," but according to the Punjab Administration Report for 1873-74, "the effect of this on prices was to a considerable extent counterbalanced by the extraordinary export of food grains to the Bengal famine districts" Between

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ments were introduced by which goods might be booked between all the principal stations from Calcutta to Karachi over the only remaining break in the line which then existed, *viz*, between Phillor and Ludhiana These through booking arrangements were, on the whole, successful, and greatly facilitated the traffic between the Punjab and the seaboard so long as this interruption in the through communication remained

"The last section of the line between Phillor and Ludhiana, including Satlej Bridge, was thrown open to public traffic on the 15th of October, the opening ceremony being presided over by His Highness the Maharajah of Patiala The opening of this section practically completed the construction of the Railway, and threw Lahore and Calcutta into direct railway communication" (*Punjab Administration Report for 1870 71, p. 80*).

"The through booking arrangements introduced on the first day of the year 1870 were still further extended, and passengers and goods can now be booked from stations on the Punjab and Delhi Railway to Madras, Bombay, Baroda and Ahmedabad" (*Punjab Administration Report for 1871-72, p. 134*).

[1] *Punjab Adm Report*, 1865-66, pp 91-2.

15th November 1873 and the end of March 1874, 3,296,783 maunds of food grains were sent from the Punjab to Bengal —

	Maunds
Gram	646,725
Barley	647,375
Wheat	594,788
Rice	175,649
Indian corn	213,457
Millets	707,211
Pulses and other food grains	311,578

This "great drain on the resources of the Province" prevented prices on the 1st of June, 1874, from falling below the level of prices at the same period of the preceding year (pp. 57-58)

The Punjab Administration Report for 1875-76 finds it "more difficult to give reasons for (price) fluctuations, owing to the wider scope of enquiry necessary to determine them," prices having become more and more independent of local circumstances on account of development of communications (p 70)

The Punjab Administration Report for 1876-77 refers to the "great demand for export to the famine districts of Bombay and to Europe" in the case of wheat in 1876-77 That the price still fell was due to a plentiful supply in the province "Wheat," the Report adds, "is grown chiefly for sale and export, the agriculturist ordinarily subsisting on the cheaper grains" (p 82)

Finally the Punjab Administration Report for 1886-87 thus comments on the export of wheat and its effect on the price of wheat It is believed also that much of the surplus stocks of wheat have been taken out of the country for export during the last few years The absence of such stores would, in a period of scarcity, contribute to the general rise in the prices of food grains" (p 81)

What has been the course of prices after 1887 ?

In 1887 and 1888, as well as in 1891 and 1892, prices were high on account of scarcity. In 1894 the ndex number showing the average annual price of the five food grains (1861-65=100) fell to 105 (the lowest level touched in the decade 1881—90 was 99 in 1885), But it commenced to rise immediately

The average of the five grains rose to 280 in 1897, and after falling to 172 in 1899 it rose to 251 in 1900 Even if we ignore the rise in prices due to famine, we cannot get over the fact that in 1904 the index number stood at 130, which was 25 points higher than the level touched in 1894 It is thus seen that prices between 1896 and 1904 did not cease to rise

The general index number rose from 130 in 1905 to 227 in 1913 While the prices of food grains in the Punjab show an upward tendency throughout the period 1861—1905, the pace was never so rapid as after 1905 Under the influence of scarcity the index number rose to 287, in 1908, but even when normal conditions returned, it never fell below 182 The period of famine prices without famine began in 1905 and continued till the end of the period under enquiry.

Causes of the Rise of Prices

Reference has been made above to the influence of the development of communications on the price of food grains in the Punjab between 1861 and 1887 Another cause of the rise of prices was increase in the circulation of money In the Report on the Revised Settlement of the Shahpur District, dated 1866, "the large influx of silver from Europe now going on " is mentioned as one of the causes of the rise of prices (p 89) Similarly the Settlement Officer of Karnal (1872 — 80) draws attention to the effect upon prices of the heavy imports of silver into India during the Lancashire cotton famine[1] This was a cause operating throughout India. But after the Mutiny money was more plentiful in the Punjab for special reasons Before the Mutiny the Indian portion of the army employed in the Punjab was largely Hindustanee A considerable share of the Punjab revenues was paid to them as their wages, of which they spent a part in the Punjab, and remitted the remainder to their homes Many lakhs of rupee were thus annually drained from the Punjab After the Mutiny the soldiers from Oudh were replaced by Punjabees, many thousands of Punjabee soldiers were also serving abroad "These men," says the *Punjab Administration Report for* 1856-57 and 1857-58, "not only remit their savings, but also have sent quantities of prize property and plunder, the spoils of Hindustan, to their native villages" (p 23).

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[1] *Settlement Report, Karnal Parganah and Panipat Tehsil, (1872-80) p 283*

The increase in the cost of cultivation must have also played some part in raising the price of agricultural produce Some Settlement Reports give the prices of plough cattle and agricultural implements, which shows that costs of cultivation were much lower before 1860 than in the period subsequent to that date. The price of a plough-bullock in Kot Khai (Simla District) was Rs 5 in 1849 and Rs 10 in 1883 The price of a bullock in Jhelum, Pind Dadan Khan, Chakwal and Tallagang at different dates is shown in the following table —

	At the end of Sikh rule	1858	1877
	Rs	Rs.	Rs
Jhelum	25	40	55
P D Khan	15 to 30	30 to 40	20 to 90
Chakwal	11	16	45
Thallagang	15	22	26

The Settlement Officer, Karnal District, attached considerable importance to the rise in the cost of cultivation as an explanation of the rise in prices in his district[1]

In the Report on the Second Regular Settlement of the Gujrat District (published in 1874) prices of agricultural implements during the Settlement are compared with prices in Sikh times, and it is found that the total had increased from Rs 72-10-9 to Rs 97-8-6[2]

Captain Dunlop-Smith, Settlement Officer, Sialkot District, (1888-95), thus refers to the rise in the cost of cultivation in the Sialkot District —

"Again while prices have admittedly risen, there has been steadily going on an advance in the cost of cultivation and the cost of living This has been nowhere more marked than in the case of farm cattle"[3]

It has been argued by some economists that increase in the cost of cultivation is the result, and not the cause of the rise in the price of agricultual produce in India The right view, however, seems to be that rise in the cost of cultivation is a cause as well as an effect, and that the rise in price and increase in the cost of production mutually influence each other The extension of cultivation after 1860 led to an increase in the demand for labour, plough cattle and agricultural implements, and their prices rose. The price of agricultural produce also rose, the rise being partly due to the increased cost of cultivation

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[1] "The price of cattle has probably doubled since 1840, at any rate that of the more valuable cattle which are needed for working the deep well and still soil of the Bangar and Nardak, and which are for the most part not bred at home. And if the people are to be believed, the cost of all implements of agriculture has increased in almost like proportion The demand for fuel and the extension of cultivation have rendered the materials dearer, the enhanced cost of living has raised the price of labour and the tendency which has so strongly marked our rule of late years to substitute contract for status and competition for custom has, in some not inconsiderable measure, relaxed the customary obligations which bind the village labourers and artificers to the communities among whom they dwell" He also pointed out that the extension of cultivation had led to the substitution of stall feeding for grazing and that the price of water had increased since 1842 by 150 per cent (*Settlement Report, 1872—80, p 284*)

[2] P 85

[3] P 36 Settlement Report, (1888-95).

We have seen that with the development of communications the influence of local circumstances in determining a rise or fall of prices began to decrease As soon as wheat began to be exported from the Punjab to other parts of India and to foreign countries, the price of wheat and other food grains in the Punjab began to fluctuate in sympathy with price fluctuations in India and other countries

The influence of increased exports in raising the price of wheat in India may be shown by a few examples

Indian wheat before the war did not much compete with wheat grown in Russia, United States, Argentina and other wheat growing countries, it was required in foreign countries only to supplement deficiencies "Apart, therefore, from general conditions affecting the supply,' says the Report on the Inquiry into the Rise of Prices, "exports are subject to violent fluctuations arising out of variations in the supply of other countries In one year the demand will be very large and even if the Indian harvest is abundant, prices will rise, in the following year, the foreign demand may be largely reduced owing to abundant supplies from Russia, the United States and other exporting countries, and even if the harvest in India be deficient, prices might fall The European demand, therefore, exercises a very important influence on the price of Indian wheat"[1] For example in 1891 the wheat harvest in India was exceptionally good, but to meet a strong demand from Europe more than 18 per cent of its total produce was exported, and prices in India rose In 1892, in spite of a poor harvest prices did not rise, owing to a decline in the European demand In 1895 the Indian crops were below the normal, but out of the restricted supply a large quantity was exported to foreign countries, and prices rose In 1901 prices were high on account of famine, but in the following year prices fell owing to a decline in the European demand From 1904 to 1907 the production of Indian wheat was above the normal but still prices rose steadily in sympathy with the rise in foreign prices Of the rise in prices in 1910 and the following two or three years the same explanation is to be given "The price of wheat in India has, with some occasional falls, been rising in recent years, notwithstanding the increase in the supply available for internal consumption. This is explained by the rise in world markets"[2]

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[1] P 114

We do not, however, find a complete explanation of the great rise in the price of wheat in India since 1905 in the growth of the export trade A new factor came into play in 1905, which overshadows other factors such as the growth of population or increased exports This is currency inflation As the result of inflation the general price level in India before the War rose more rapidly than prices in other countries, a subject which will next claim our attention

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[2] *Prices Report p 116*

TABLE I

Price of Food Grains in the Punjab in seers per rupee.

Year	Wheat	Barley	*Jowar*	*Bajra*	Gram
1841	23 40				
1842	29 70				
1843	28·35				
1844	27 00				
1845	24 75				
1846	22 05				
1847	21 60				
1848	27 90				
1849	23 18				
1850	26 10				
1851	38 25				
1852	36 00				
1853	31 05				
1854	28 43				
1855	35 10				
1856	29 25				
1857	34 65				
1858	36 45				
1859	36 45				
1860	26 10				
1861	17 46	24 80	22 12	22·87	19 65
1862	26 98	45 23	36 43	32·39	33 70
1863	29 95	48 87	43 71	38·26	41·12
1864	27 49	42 51	33 30	29 20	34 77
1865	21 73	34 72	29 09	26 33	30 09
1866	22 83	35 67	29 34	24 91	30 05
1867	21 07	29 22	26 68	23 56	23 88
1868	16 24	23 59	17 81	16·52	18 80
1869	11 99	18 00	15 56	13·32	10 99
1870	15 84	23·47	23 78	19 48	16 58
1871	21 08	31 91	29 26	22·79	22 37
1872	20 40	29 78	23 57	22 60	21 20
1873	22 18	33 45	30 36	28 16	27 64
1874	22 95	33 58	27 60	24·89	32·14
1875	24 79	35 45	30 66	29·10	32 02
1876	25·97	38 42	33 24	31 04	36 67
1877	23 33	36 63	31 22	28 50	31·79
1878	16 07	24·01	16 66	15 32	16 22
1879	12 92	18 06	15 72	15 27	14 99
1880	14 59	21 70	21 23	17 93	18 13

Continued on next page

TABLE I—(*continued*)

Prices of Food Grains in the Punjab in seers per rupee.

Year	Wheat	Barley	*Jowar*	*Bajra*	Gram
1881	17 33	26 30	22 21	18 94	21 12
1882	21 37	34 06	30 15	24 28	26 99
1883	22 22	35 98	34 81	29 92	30 76
1884	24 37	36 22	33 08	28 69	32 22
1885	24 91	38 49	34 01	30 38	32 39
1886	19 48	32 40	25 32	21 98	28 85
1887	14 69	21 32	17 48	15 89	21 02
1888	15 62	21 53	19 45	16 57	20·52
1889	19 62	30 36	25 64	20 26	25 56
1890	18 18	27 56	24 21	21 43	22 18
1891	14 91	22 49	17 75	16 32	19 80
1892	13 57	20 69	19 51	15·92	20 24
1893	16 42	26 36	24 41	19 81	25 71
1894	24 21	39 02	31 40	23 63	34 51
1895	19 10	28 68	24 40	20 56	25 17
1896	12 63	16 53	14 78	12 68	15 61
1897	10 42	13 52	11 76	10 39	10 48
1898	16 39	25 46	22 01	19 62	19 14
1899	15 76	22 16	19 75	17 09	17 35
1900	11 98	15 06	12 42	11 94	11 56
1901	15 20	23 76	21 83	20 07	18 25
1902	15 96	22 30	21 62	17 81	19 03
1903	16 42	22 86	21 88	19 82	21 06
1904	17 75	27 12	28 93	23 26	26 18
1905	15 07	23 74	21 62	18 54	20 63
1906	14 62	20 33	15 96	14 01	16 96
1907	13 78	20 36	18 67	17 11	16 35
1908	9 55	13 39	11 38	10 55	10 29
1909	10 15	16 66	15 46	14 28	13 56
1910	12 83	21 30	17 18	16 09	18 17
1911	13 87	20 60	17 86	15 74	18 74
1912	12 18	15 96	13 41	12 39	15 34
1913	11 38	15 92	15 43	12 61	14 38
1914	10 47	14 65	12 26	11 18	11 71
1915	8 80	13 77	10 66	10 22	11 70
1916	10 27	13 50	12 76	10 88	12 12
1917	9 54	13 80	12 60	13 04	11 66
1918	7 89	11 28	7 19	8 36	9 86
1919	6 50	8 96	6·56	5 60	7 02
1920	7 12	10 43	8 64	7·29	7 19

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1 The price of wheat from 1841 to 1860 is " adjusted price " (see text)

2 The prices of the five food grains from 1861 to 1905 have been taken from the *Prices and Wages, 23rd Issue* They are all averages of 21 districts

3 The prices of the five food grains from 1906 to 1920 have been taken from the *Prices and Wages, 36th Issue* They are given in the Report in Rupees per maund, and had to converted into seers per rupee For wheat and barley the prices given are averages of 23 districts and for *jowar*, *bajra* and gram averages of 21 districts

TABLE II

Index Numbers of Prices The average of prices in 1861 - 65 = 100

Year	Wheat	Barley	*Jowar*	*Bajra*	Gram	Average of five grains
1841	106					
1842	83					
1843	87					
1844	92					
1845	100					
1846	112					
1847	114					
1848	89					
1849	107					
1850	95					
1851	65					
1852	69					
1853	80					
1854	88					
1855	70					
1856	85					
1857	71					
1858	68					
1859	68					
1860	95					
1861	142	158	149	130	162	148
1862	92	87	90	81	95	89
1863	83	80	75	78	78	79
1864	90	92	99	102	92	95
1865	114	113	113	113	106	112
1866	108	110	112	120	106	111
1867	117	134	123	126	133	127
1868	152	166	185	180	170	171
1869	206	218	212	224	290	230
1870	156	167	139	153	192	161
1871	117	123	113	131	143	125
1872	121	132	139	132	150	135
1873	111	117	108	106	115	111
1874	108	117	119	120	99	113
1875	100	111	107	102	100	104
1876	95	102	99	96	87	96
1877	106	107	105	105	100	105
1878	154	163	198	194	197	181
1879	191	217	210	195	213	205
1880	169	181	155	166	176	169

Continued on next page.

TABLE II—(*continued.*)

Index Numbers of Prices The average of prices in 1861—65 = 100

Year	Wheat	Barley	*Jowar*	*Bajra*	Gram	Average of five grains
1881	143	149	148	157	151	150
1882	116	115	106	123	118	116
1883	111	109	95	100	104	104
1884	101	108	100	101	99	102
1885	99	102	97	98	98	99
1886	127	121	130	136	111	125
1887	169	181	188	188	152	176
1888	158	182	169	180	155	169
1889	126	129	129	117	125	131
1890	136	112	136	139	142	139
1891	166	174	186	183	161	174
1892	182	190	169	187	157	177
1893	151	149	135	150	124	142
1894	102	101	105	126	92	105
1895	129	137	135	145	127	135
1896	196	237	223	235	204	219
1897	237	290	280	287	304	280
1898	151	154	150	152	167	155
1899	157	177	167	174	184	172
1900	206	260	265	249	276	251
1901	163	165	151	149	175	161
1902	155	176	152	167	168	164
1903	150	172	151	150	151	155
1904	110	145	114	128	122	130
1905	164	165	152	161	154	159
1906	169	193	206	212	188	194
1907	179	193	176	174	195	183
1908	259	293	289	283	310	287
1909	244	236	213	209	235	227
1910	193	184	188	185	175	185
1911	178	190	184	189	170	182
1912	202	246	246	241	208	229
1913	217	246	213	236	222	227
1914	236	268	269	267	272	262
1915	281	285	309	292	272	288
1916	241	291	258	274	263	265
1917	259	284	261	229	273	261
1918	313	348	458	357	323	360
1919	380	438	502	532	454	461
1920	347	376	381	409	443	391

TABLE III

Punjab Food Prices. Moving Averages

Year	Average price of the five food grains as a percentage of their average price from 1861 to 1863	AVERAGES	
		Ten yearly *(centred)	Twenty-yearly †(centred
1861	118		
1862	89		
1863	79		
1864	95		
1865	112		
1866	111	131	
1867	127	133	
1868	171	136	
1869	230	139	
1870	161	139	
1871	125	138	134
1872	135	136	134
1873	111	136	136
1874	113	135	136
1875	104	134	136
1876	96	136	136
1877	105	136	138
1878	181	135	139
1879	205	134	137
1880	169	133	133
1881	150	134	134
1882	116	139	136
1883	104	142	138
1884	102	138	139
1885	99	133	139
1886	125	133	143
1887	176	137	151
1888	169	142	155
1889	131	144	153
1890	139	146	154
1891	174	152	157
1892	177	163	158
1893	142	168	161
1894	105	169	163

Continued on next page

TABLE III—(*continued*)

Punjab Food Prices Moving Averages

Year	Average price of the five food grains as a percentage of their average price from 1861 to 1865	AVERAGES	
		Ten-yearly *(centred)	Twenty-yearly * (centred)
1895	135	177	165
1896	219	182	168
1897	280	180	170
1898	155	180	173
1899	172	182	178
1900	251	185	182
1901	161	185	183
1902	164	179	185
1903	155	180	188
1904	130	190	194
1905	159	189	202
1906	194	187	207
1907	183	191	208
1908	287	198	212
1909	227	208	225
1910	185	221	235
1911	182	231	
1912	229	239	
1913	227	246	
1914	262	262	
1915	288	284	
1916	265		
1917	261		
1918	360		
1919	461		
1920	391		

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* Centred by means of a two-yearly moving average

TABLE IV

Price of wheat Moving averages

Year	Price of wheat as a percentage of the average price in 1861—65	AVERAGES	
		Ten yearly *(centred)	Twenty-yearly *(centred)
1841	106		
1842	83		
1843	87		
1844	92		
1845	100		
1846	112	97	
1847	114	94	
1848	89	93	
1849	107	92	
1850	95	91	
1851	65	88	88
1852	69	84	89
1853	80	81	90
1854	88	78	89
1855	70	76	90
1856	85	80	90
1857	71	85	90
1858	68	86	92
1859	68	87	96
1860	95	89	100
1861	142	92	103
1862	92	96	105
1863	83	102	107
1864	90	113	109
1865	114	123	110
1866	108	125	111
1867	117	125	112
1868	152	128	115
1869	206	130	120
1870	156	131	125
1871	117	129	127
1872	121	128	128
1873	111	128	129
1874	108	127	130
1875	100	127	130
1876	95	129	130
1877	106	130	132
1878	154	130	233
1879	191	129	131
1880	169	129	129

Continued on next page

TABLE IV—(*continued*)

Price of wheat Moving averages

Year	Price of wheat as a percentage of the average price in 1861—66	AVERAGES	
		Ten yearly *(centred)	Twenty-yearly *(centred)
1881	143	130	129
1882	116	135	132
1883	111	138	135
1884	101	135	135
1885	99	130	136
1886	127	130	139
1887	169	134	145
1888	158	140	148
1889	126	142	147
1890	136	143	147
1891	166	148	149
1892	182	155	150
1893	151	158	152
1894	102	159	154
1895	129	164	157
1896	196	168	159
1897	237	166	161
1898	151	165	164
1899	157	167	169
1900	206	170	173
1901	163	171	175
1902	155	167	176
1903	150	169	178
1904	140	179	183
1905	164	183	190
1906	169	183	195
1907	179	186	197
1908	259	191	202
1909	244	200	211
1910	193	210	220
1911	178	220	
1912	202	227	
1913	217	234	
1914	236	244	
1915	281	258	
1916	241		
1917	259		
1918	313		
1919	380		
1920	347		

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* Centred by means of a two-yearly moving average

TABLE V.

Prof Myles's Index Numbers of Punjab Food Grain Prices

Year	Average price of wheat, barley, *bajra*, *jowar* and gram as a percentage of their average price from 1873 to 1882	AVERAGES	
		Ten yearly	[Twenty-yearly, centred].
1	2	3	4
1861	109		
1862	67		
1863	59		
1864	71		
1865	83	98	
1866	83	96	
1867	91	100	
1868	126	102	
1869	169	103	
1870	119	103	
1871	93	102	100
1872	100	100	100
1873	82	101	101
1874	84	99	102
1875	77	100	102
1876	72	101	101
1877	78	102	102
1878	134	100	103
1879	151	99	101
1880	125		99

Continued on next page

TABLE V—(*continued.*)

Prof. Myles's Index Numbers of Punjab Food Grain Prices.

Year	Average price of wheat, barley, *bajra jowar* and gram as a percentage of their average price from 1873 to 1882	AVERAGES	
		Ten-yearly	[Twenty yearly, * centred]
1	2	3	4
		99	
1881	111		100
		101	
1882	86		101
		106	
1883	87		103
		105	
1884	77		103
		99	
1885	74		103
		97	
1886	93		106
		99	
1887	130		112
		103	
1888	124		114
		106	
1889	97		113
		106	
1890	103		114
		109	
1891	128		116
		115	
1892	130		117
		123	
1893	105		118
		122	
1894	78		120
		125	
1895	99		121
		133	
1896	161		124
		132	
1897	205		125
		131	
1898	114		127
		132	
1899	126		130
		134	
1900	184		133

TABLE V—(*contd*)

Prof Myles's Index Numbers of Punjab Food Grain Prices

Year	Average price of wheat, barley, *bajra* *jowar* and gram as a percentage of their average price from 1873 to 1882	AVERAGES: Ten yearly	AVERAGES: [Twenty-yearly, * centred]
1	2	3	4
		135	
1901	118		131
		133	
1902	120		135
		126	
1903	115		138
		136	
1904	95		142
		140	
1905	117		148
		135	
1906	141		151
		136	
1907	133		152
		141	
1908	209		155
		146	
1909	166		164
		156	
1910	135		172
		165	
1911	133		
		170	
1912	167		
		176	
1913	166		
		182	
1914	191		
		199	
1915	210		
		214	
1916	194		
1917	191		
1918	263		
1919	336		
1920	286		

* Centred by means of a two-yearly moving average.

TABLE VI

Punjab Food Prices (in seers per rupee)*

Year	Wheat	Adjusted † price	Gram	Barley	*Jowar*
1841	26	23 40	29	36	41
1842	33	29 70	38½	44½	37½
1843	31½	28 35	37½	45½	43½
1844	30	27 00	37	43½	37½
1845	27	24 75	34	38½	37½
1846	24½	22 05	28	34	31¼
1847	24	21 60	29½	34	35
1848	31	27 90	32½	39	28¼
1849	25¾	23 18	24¼	33	31½
1850	29	26 10	35	45	41
1851	42½	38 25	50	61½	51
1852	40	36 00	44¼	56	51
1853	34½	31 05	49	52	39¼
1854	31¼	28 13	40¼	45½	44½
1855	39	35 10	56½	59	57½
1856	32½	29 25	47	50½	51½
1857	38½	34 65	51½	55	51
1858	40½	36 45	53	58	52
1859	40½	36·45	49¾	60	48¼
1860	29	26 10	33	40	30½

* Taken from the diagrams given in the Punjab Administration Report for 1874 75

† Adjusted by reducing the figures given in the previous column by 10 per cent. in each case (see text)

CHAPTER VIII

THE RISE OF PRICES IN INDIA BEFORE THE WAR AND THE REPORT OF THE PRICES ENQUIRY COMMITTEE

The year 1905 marks a new epoch in the history of Indian prices. Before 1905, while famine or scarcity raised the prices of food grains, favourable monsoons lowered them The rise in prices, thus, lasted for a short time For example, the index number†, which was 149 in 1869 and 123 in 1870 fell to 92 in 1871 it was 174 in 1878, but 96 in 1881 and 95 in 1882 It is for the first time in the quinquennium 1886—90 that we are unable to explain the high level of prices (the famine in Ganjam and scarcity in Behar were only of local importance), and from 1890 to 1905 we notice that prices fall more slowly with the return of good seasons For example, the index number did not fall below 114 in 1894, and in spite of the favourable monsoon conditions in 1902 and 1903, and the bumper crop of the following year, it was three points higher in 1904. Since 1905 the prices of food grains have risen almost continuously Along with the prices of food grains those of almost all other articles have been rising since 1905.

Attention was called to the general rise of prices in India by an anonymous writer in the *Economic Journal* for March 1907 He condemned the Indian currency system as inelastic and tried to show that this inelasticity was the cause of the rise of prices —

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† *Index Numbers (unweighted) of retail prices of food grains in India (1873 = 100), of the Commercial Intelligence Department.*

"The conclusion therefore cannot be resisted that the floods of rupees entering the country in the busy season must, finding no employment thereafter, choke the circulation in the dull season and raise prices, whilst each succeeding year the demand grows like a snowball falling down a slope."

In the Budget debate of March 1908, Mr Gokhale drew attention to the rise of prices which he attributed to the heavy coinage of rupees by the Government of India, and pressed for the appointment of a committee to consider the whole question of the rise of prices Writing in the *Journal of the Royal Statistical Society* for September 1909, Mr Fred J. Atkinson, sometime Accountant-General of the United Provinces, reached the same conclusion, that the question of a redundant currency was mixed up with the currency system of India and that the redundancy was due to the fact that the currency was not automatic

The Government of India appointed a Committee for the investigation of the problem in 1910 The Committee submitted its report in 1914 Its chief conclusions are summarised below

The Committee recognised that "up to 1905 the fluctuations in the prices of food grains and pulses depended largely on the agricultural conditions in India" But a sharp and rapid rise of prices began in 1905 which was not always wholly due to unfavourable agricultural conditions "Taking India as a whole, the agricultural conditions were not seriously adverse either in 1905 or in 1906 Still these years appeared to have ushered in a new period in the history of Indian price levels, the predominant characteristic of which was the existence of famine prices without famine"*

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* Report p 32

The Prices Committee compared the rise of prices in India with that in the leading countries of the world and found that the rise was greatest in India. This is shown by the following statement —

The rise in wholesale gold prices in India and other countries in the quinquennium 1907-11

Country	Compared with 1890-94	Compared with 1894-98
India	10	40
Belgium	25	26
Germany	24	38
United States	20	38
Canada	19	31
Italy	14	21
Australia	13	20
France	12	26
United Kingdom	9	21
New Zealand	1	9

In view of the greater rise of prices in India the Committee considered it necessary to examine at length the probable causes of the rise of prices peculiar to India The general causes of the rise of prices throughout the world were a shortage in the supply of, or an increase in the demand for staple commodities in the world's markets the increased gold supply from the world's mines, the development of credit, and destructive wars and the growth of armaments

Causes of the rise of prices peculiar to India

"One of the principal causes," says Mr Datta, " which has led to the rise in prices in India, is a shortage of supply, particularly in the case of food grains By shortage of supply is meant not that the total production of the country has actually contracted as compared with the basic period (1890-94), but that production has not kept pace with the growth of internal consumption and external demand "†

Mr. Datta then proceeds to discuss the probable causes of the shortage of supply.

Growth of cultivation not commensurate with the growth of population

On page 58 of the Report Mr. Datta gives a table comparing the growth of population with that of food grains and the extension of cultivation, which is reproduced below —

	Average of the quinquennium 1890-91 to 1894-95	Average of the quinquennium 1895-96 to 1899-1900	Average of the quinquennium 1900-01 to 1904-05	Average of the quinquennium 1905-06 to 1909-10	1910 11.	1911-12
Population	100	101 6	103 7	105 7	107 8	108 1
Total area under cultivation	100	98	103	105	108	106
Area under food grains	100	96	101	102	106	103
Production of food grains	100	98	105	99	113	109

"It may safely be concluded from the above," says Mr. Datta, "that population has increased by a larger percentage in the period under enquiry than either the total area under cultivation, the area under food grains or the total production of food grains, or in other words, the requirements of food grains for internal consumption have increased in a larger proportion than the total production of food grains"*

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† Report, p 53

The table, however, does not show any very great disparity between the growth of population or internal demand and the growth of production, except in the quinquennium 1905-06 to 1909-10

The exports of food grains from India (excluding Burma) to other countries were -

	quinq 1894 95	quinq 1899 19	quinq 1904 05			
In thousands of cwts	28,899	21,956	33,255	29,568	41,857	64,210
Index Number	100	76	115	102	145	222

On the whole Mr. Datta concludes that the demand, for both internal consumption and export, increased more rapidly than the food supply The shortage of supply was greatest in the quinquennium 1905-09, hence the great rise in prices that quinquennium

Unseasonable rainfall.—Reference has already been made to the severe famines of 1896-97, 1899-00 and 1907-08 There was scarcity in particular parts of the country in 1891-92, 1905-06 and 1906-07.

It cannot be doubted that the rise in prices in particular years was aggravated by unfavourable agricultural conditions

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* *Prices Report*, p 58

Substitution of non-food crops for food crops. The cultivation of non-food crops, jute, cotton and oil-seeds grew steadily during the period 1890-1912. The area under food grains actually contracted in some parts of the country, while in others its growth was retarded, with the result that there was a diminution in the food supply of the country

Inferiority of new lands taken up for cultivation.—In the more populous parts of the country all lands that were good had already been brought under cultivation and whatever new lands were taken up were necessarily of an inferior quality "The produce of this inferior land cannot be so good as that of the richer soils, and consequently the addition of these poorer lands has diminished, to some extent, the average yield per acre for India as a whole"

Inefficient tillage —In particular parts of the country it is probable that the cultivation of land became less efficient than before on account of scarcity and dearness of labour and plough cattle, but Mr Datta doubts ' whether this had any appreciable effect on the total outturn of the land"

Decrease in the productive power of the soil —Many people think that the productive power of the soil in India has decreased The opinion of the majority of the experts quoted in the Report, however, is that there is no justification for this belief, and Mr. Datta concludes, that on the whole, there was no such decrease during the years 1890-1912.

Increased demand for commodities in India -The general rise in prices, says Mr Datta, is due in part to the increased demand for all kinds of commodities. The chief cause of the increase in demand is the rise in the standard of living amongst all classes of the population.

"But it is difficult to say," Mr. Datta adds, "whether improvement is the cause or the effect of the higher level of prices. These two act and react upon each other."

Expansion of Communications.—On account of the great development of roads and railways the isolation of the Indian village has ceased and the whole of India has become one market for many classes of commodities A deficiency in one part of India is made good by importation from other parts and prices throughout the country tend to rise "The lowering of the direct and indirect cost of transport in India itself and between the Indian ports and foreign countries," says Mr Datta, "is another of the most important causes which have raised the general price level in India."* The prices in sea-port towns rise and fall in sympathy with prices in foreign countries, and the reduction in sea-freights has made the connection between Indian and foreign price levels still more intimate The lowering of the cost of transportation within the country has tended to make prices in inland districts approximate more and more to those prevailing in sea-port towns and central markets

Improvement in the general monetary and banking facilities and an increase in credit—As compared with the average of 1890-94, the capital of Banks in India, in 1911, increased 115 per cent deposits 232 per cent and Clearing House returns 210 per cent, while business increased 112 per cent only Credit, Mr Datta concludes, "contributed to a certain extent to the rise in prices in India" The marginal summary reads—"Growth of Credit—its considerable influence on prices."

Increase in the circulation of rupees—The circulation of rupees increased 64 per cent in 1912 as compared with the 122 per cent increase in business Mr Datta's conclusion is that "the growth of the volume of currency (including notes) has not been incommensurate with the growth of business and other demands for currency and in the absence of any indications of a redundancy of rupees for any length of time, it is clear that the rupee coinage of the Government of India could not have exercised any important influence on the level of prices" He also attempted to show that the coinage of rupees was compulsorily undertaken by the Government when the demand for rupees depleted the currency reserve, that the Government cannot force rupees into circulation, and that the currency system worked quite automatically as it did previous to the closing of the mints to the coinage of silver.

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* *Prices Report*, p. 81.

Examination of the Report on the Rise of Prices

We have seen that, according to Mr Datta, a comparative shortage of supply was one of the important causes of the rise of prices in India before the War The Government of India, however, did not accept this view They pointed out, in the first place, that the commercial-crops occupied a very small proportion of the total area under cultivation, and that in the country as a whole there was no substitution of non-food crops for food crops Secondly, they did not regard Mr Datta's estimates of outturn as reliable The area under cultivation, as we have seen, expanded more rapidly than the population, except during the quinquennium 1895—99 to 1899—1900, while between the growth of population and the extension of food cultivation there was "an almost precise parallelism" They also pointed out that the area irrigated from State-owned sources nearly doubled during 1899—1912 Lastly, they agreed with Mr Datta that the export of food grains exercised a negligible influence on their prices

What is the explanation of the rise of prices if it was not due to a comparative shortage of supply? The Government of India agreed with Mr Datta that the rise of prices during 1890—1912 was not the effect, but the cause of increase in the circulation of rupees, and that the extended use of credit had "an important effect on prices" They, however, seemed to attach more importance to world factors than to this or any other cause peculiar to India From 1890 to 1905 "Prices rose or fell in the main in accordance with changes in the agricultural conditions from year to year" The causes of rise of prices since 1905, "must be sought for in a different and independent group of circumstances

To this view, however, it may be objected that if our price level rose under the influence of the rising price levels of foreign countries, it could not have risen to a greater extent than the latter The rise in prices in Germany and the United States, as Mr Datta says, can be partly accounted for by their protective tariffs and growth of industrial and commercial combinations in these countries But how to account for the great rise in prices in India? There must be some cause or causes of a general nature peculiar to India, which began to act on our price level after the year 1905

The expansion of communications and the lowering of the cost of transportation in India and foreign countries is not the cause we are seeking The increase in the facilities of communications and the lowering of seafreights undoubtedly linked our prices to world prices more closely They explain why our prices began to rise in sympathy with the world's prices—but they do not explain why our prices rose to a greater extent than prices in other countries

The Influence of credit on prices in India.

The effect of the increase in the use of credit instruments on prices in India is thus summarised in the Government Resolution on the Report of the Prices Committee —

"As indicated in paragraphs 214—218 of the Report, the paid up capital and reserve of the Presidency and major Joint-stock banks (excluding the Exchange banks) increased by 55 7 per cent during the decade ending 1911 Private deposits available for commercial enterprise in the Presidency and Joint-stock banks, including Exchange banks, rose from an average of about 26 crores in the five years 1890—94, to an average of 61 in the quinquennium 1905—1909, and of 83 in the years 1910 and 1911 The increase has been specially rapid since 1900 The deposits, which in that year amounted to 31 crores, rose to 51 crores in 1905, 73 in 1909, 82 in 1910 and 85 in 1911 Again, between 1890 and 1912, the value of the cheques cleared at the Clearing Houses in Calcutta, Bombay and Madras increased from 138 to 517 crores There can be no doubt that, as observed by Mr Datta, (page 83, paragraph 214, of the Report) the extended use of credit has had an important effect on prices"*

For reasons explained below I find myself unable to accept this view

In countries like England and the United States of America credit instruments are used in the great majority of transactions, and credit in these countries exercises an important influence on prices Mr Hartley Withers tells us that the currency that England's cheque-paying banks create "settles the great majority of commercial and financial transactions and much of the retail traffic of daily life"† As regards the United States of America, it is estimated that credit instruments are used, roughly, in 75 per cent. of the business transactions Considering that credit instruments are used in the great majority of transactions in countries like England and the United States, it is not surprising that an appreciable increase or decrease in the credit circulation in such countries has an important effect upon the level of prices

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* *Prices Report*, p iv

† *Meaning of Money*, p 136.

But the case of India is different Here cash, and not credit, is used in the great majority of transactions Banking is in its infancy in India The number of banks is small and the bank deposits as compared with the total volume of business transactions in India are infinitely small Now the cheque is the most important of all credit instruments When Irving Fisher and others talk about credit and its relation to prices, they use the word chiefly in the sense of 'checkable' deposits But the extent to which cheques are used in India in making payments is very small The use of cheques is limited to Calcutta, Bombay and Madras and other capital towns It may also be pointed out that India being an agricultural country, a very large number of our transactions must consist in the purchase and sale of agricultural produce It is well known that the Indian cultivator has a decided preference for coins, and that he looks even on currency notes with suspicion It may be doubted whether payments are made to cultivators by cheques even in one per cent of the transactions Some evidence on the use of cheques in India was taken by the Chamberlain Commission, which may be quoted here Mr Henry Marshall Ross, * a witness, was of opinion that the use of cheques could be advantageously extended even in the Presidency towns. "It is very poor at present," he said He was asked whether the use of cheques was likely to curtail the circulation of currency notes and whether it was probable

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* A Calcutta export merchant.

that cheques would be used at all throughout the country beyond the Presidency towns His reply was " not within any period I can look forward to myself They will be confined to the Presidency towns' business "

Important evidence in this connection was given by another witness *

Q 4106 (Mr Keynes) Can you tell us in what class of transactions you find it possible in your business to use cheques ?—Speaking of my own business I use cheques practically in every case No matter what the kind of payment, except for wages and salaries which I always pay in cash

4108—If you are buying produce of an Indian trader, would you pay him by cheque ?—Very rarely He probably wants either currency notes or actual cash

4109—Then these cheques which you mention are paid to English merchants ?—That is so largely

4110—And except when you are making payments to other English merchants you would not use cheques much ?—No, broadly speaking, I should not

In a memorandum submitted by the same witness to the Commission, he had referred to the possibility of the use of cheques being gradually increased throughout the country The Commission asked him whether he thought that would be a speedy process The witness said " No " What he had in his mind more particularly was the European Community using cheques more—" the native does not to any great extent use cheques for large amounts," he added

Q 4072. And it is not likely that he will ? " I do not think so for long time to come "

Enough has been said to show that cheques are used only to a very limited extent in India

The amount of cheques cleared at the Clearing Houses at Calcutta, Bombay, and Madras, as compared with the average of the five years 1890—94, shows a great increase But for our purposes it is important to know, in the first place, what proportion of the cheques cleared represented commercial as distinguished from banking operations, and secondly, what proportion the amount of cheques used in commercial transactions which passed through the Clearing Houses, bore to the total value of all commercial

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* Sir Alexander McRobert, a woollen manufacturer

transactions. It is important not to confound banking operations with commercial transactions. Banks "daily receive and transfer many checks the sole function of whose receipt and transfer is to facilitate exchanges among banks or between banks and Clearing Houses—transfers which in no other way represent commercial transactions. Such transactions are part of the country's banking machinery and their *raison d'etre* is found in the credit mechanism of exchange itself."[*] When the amount of the cheques cleared increases from 138 crores to 517 crores[†] it may be of course presumed that the amount of cheques used in commercial transactions has increased, but it will be wrong to suppose that it has increased about four times.

Secondly, if the proportion of cheques used in commercial transactions to the total value of transactions was insignificant in the beginning, the effect upon prices may be inappreciable even if the amount of cheques increased 5, 6 or 10 times. It is not the amount of cheques but the proportion of the commercial transactions in which cheques are used to the total volume of business transactions that is important.

It may be useful to summarise our conclusions so far. We have seen that the expansion of communications and the lowering of the cost of transportation in India and between India and foreign countries do not explain the great rise of prices in India. Our prices, it has been argued, could not have risen to a greater extent than prices in other countries in the absence of causes peculiar to India tending to raise prices. Of these, to which great importance is attached by Mr Datta, is the comparative shortage of supply, but there are good reasons for believing that during the period 1905—12, the growth of population was not much more rapid than the growth of food supply The increase in the cost of production Mr Datta regards as the effect rather than the cause of the rise of prices The only other remaining causes peculiar to India which might have raised our prices are (1) an increase in credit and (2) an increase in the volume of the rupee currency. Of these two, it has been shown, that the first could not have exercised any important influence on our prices We have now to consider whether the rise of prices was in any measure due to the redundancy of currency An attempt will be made to show that the question of the rise of prices is intimately connected with that of the nature of our currency system A gold exchange system, in practice, does not work automatically, and it is for this reason that our rupee currency became redundant during the years 1905—12, and prices rose

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[*] *Money and Prices* by E W Kemmerrer, p 112

[†] *Prices Report*, p. 85.

The official view is that the gold exchange system works automatically and that the currency cannot become redundant. Rupees are issued into circulation only to meet the demands of trade. Not a single rupee can be forced into circulation In reply to Mr Gokhale's suggestion that the rise of prices during 1904—07 was due to the over-issue of rupees Sir E Baker, the Finance Member said "The whole of the new coinage that we have undertaken during this period has been undertaken solely to meet the demands of trade Not one single rupee has been added to the circulation except to enable us to meet those demands"

What would happen if the Government over-estimated the demand for rupees and over-coined? "Then what would happen would be that the superfluous rupees would lie in their various reserves, but not in actual circulation You cannot force rupees into circulation," said the late Sir L. Abrahams of the India Office in the course of his evidence before the Chamberlain Commission

Mr Datta also says —

"Rupees when required by the trade are ordinarily supplied in lieu of gold or Council bills from the currency reserve or the silver branch of the Gold Standard Reserve [now abolished] When the amount of rupees in the silver portion of the Paper Currency Reserve falls to the margin of safety, the Government of India recognise that the time is drawing near for the coinage of new rupees And when the percentage of the rupee reserve in the currency to the circulation becomes very low, coinage is compulsorily undertaken by Government " †

So far as the addition of rupees to the circulation is concerned, the only difference between the gold exchange system and the system which existed before 1893 according to Mr Datta was that while in the one case rupees were issued in exchange for the imported gold and Council bills, in the other case they could be obtained directly by the minting of bullion at the option of its owner

In a monetary system with an open mint the currency decreases automatically when the rise of prices causes imports to increase and renders the export of gold or silver necessary The circulation is thus reduced and prices fall Under a gold exchange system an adverse balance of trade cannot be adjusted by the exportation of the token coins. The tokens must be converted into gold (or bills payable in gold) for that purpose The Government of India did so when it became necessary This was the outlet provided for the excess currency When Reverse bills are sold, the currency contracts and prices should fall. It is thus shown that our currency expanded and contracted by an automatic process

Against the view that our currency worked automatically it may be urged that some of the causes, which tend to reduce prices by decreasing the volume of circulation under gold or silver monometallism, cease to work when the principal money of a country consists of token coins. When the rupee was a full value coin it was freely exported as bullion, it was melted down to make ornaments and it was also hoarded The rupees in hoards or in the form of ornaments represented the savings of the people The rupees melted and hoarded formed a considerable proportion of the coinage Mr Atkinson estimates that from 1835 to 1862, 34½ per cent of the coinage of 1835 and 1840 was melted down into ornaments, and that the rupee consumption of the 1862—92 coin for ornaments was 40 crores, which is about 20 per cent of the total coinage of 1862—92 As to rupees hoarded in the period 1862—92, taking 24 per cent of the coinage to have been hoarded, the amount would be 49 crores of rupees, equal to 157 lakhs a year* Hoarding and melting, apart from export, accounted for about 45 to 50 per cent of the coinage.

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† *Prices Report, p.* 88.

When the rupee became a token coin, the melting of rupees ceased altogether, while for purposes of hoarding gold was preferred It cannot be doubted that the hoarding and the melting of rupees before 1893 prevented prices from rising too rapidly by reducing the volume of the currency, and that the change in the character of the rupee, from a full value coin to a token coin, by discouraging hoarding and making it unprofitable to melt rupees, contributed in some measure to the inflation of the rupee currency It really proves nothing to say, as Mr Datta does, that the "average annual coinage during the eighteen years that have elapsed since the closing of the mints has been much less than in the corresponding period preceding that date"* The averages are 751 lakhs for the period 1874-75 to 1893-94, and 566 lakhs for the period 1893-94 to 1911-12 In the decade following the closing of the mints the average net coinage was small, due to a deliberate restriction of the coinage to force up exchange The net coinage of silver was very heavy in the period 1899-00 to 1907-08, amounting to a total of 100·24 crores for 9 years, or over 11 crores annually on an average During 19 years, from 1874—75 to 1892—93, the total net coinage of silver amounted to 137·88 crores, which gives an annual average of 7½ crores †The rise of prices became very marked, as we have seen, after 1905 Now in the triennium 1905-06 to 1907-08, the total net coinage of silver amounted to 55·96 crores, a figure which has not been exceeded by the total net coinage in any period of *five* years before the closing of the mints Further, we should not forget that before 1893, 15 to 50 per cent of the coinage was melted and hoarded

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* *Journal of the Royal Statistical Society*, Vol LXXII, p 517

As regards the issue of new rupees into circulation, it must be admitted that they can be issued only in response to the needs of trade But it may be pointed out that the rupee is a note printed on silver and for purposes of internal circulation it is inconvertible During the period of the Bank Restriction in England the Bank of England notes depreciated in spite of the fact that the Directors had made advances in notes in response to legitimate trade demands, and at a high rate of discount "They thought in this way the demands for currency were fairly indicated," says Professor Nicholson "and that, therefore, there could be no depreciation But they forgot the cumulative effect. None of the notes being withdrawn or sent abroad, in time the quantity became too great, prices rose and *inter alia*, the price of gold "‡

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* *Prices Report*, p 89

† See *Prices Report*, p 90

‡ *Economic Journal for June 1914.*

The Bullion Committee thus described the causes of the inflation —

"In the first instance when the advance is made by notes paid in discount of a bill, it is undoubtedly so much capital, so much power of making purchases placed in the hands of a merchant who receives the notes, and if these hands are safe, the operation is so far, and in this its first step, useful and productive to the public But as soon as the notes are exchanged by him for some other article which is capital, they fall into the channel of circulation as so much circulating medium and form an addition to the mass of currency The necessary effect of every such addition to the mass is to diminish the relative value of any given portion of that mass in exchange for commodities"

It might also be objected that the Bank of England notes were inconvertible while the rupee is partially convertible The Government convert rupees into gold or sterling bills when remittances have to be made to foreign countries in settlement of an adverse balance of trade Remittances "can be made from India to the other countries in adjustment of the trade balance as freely as before, and when such remittances are made on a large scale the inevitable effect will be a contraction of the circulation of rupees' (*Prices Report*, *p 88*) But it may be long before the need for making such remittances on a large scale arises If the foreign demand for a country's exports was weak so that the slightest rise in prices caused the demand to fall off and turned the balance of trade against the country, the volume of currency would be quickly reduced by the withdrawal of rupees from circulation in order to make foreign remittances. But if the foreign demand is strong—the exports, for example, consisting of raw materials—the level of prices will have to rise to a great height before a favourable balance of trade is turned into an unfavourable balance of trade and the necessity for making heavy foreign remittances arises. Now, as a matter of fact, the balance of trade is generally in India's favour. From 1898 to 1912, the balance of trade was unfavourable to India for a short time in 1907—08, when 9 crores of rupees were withdrawn from circulation The effect of the contraction of the circulation upon prices was negligible Prices had risen sharply on account of famine in 1908 with the return of normal conditions they returned to the old level The general index number was 133 in 1907, 143 in 1908, 133 in 1909, 132 in 1910, 134 again in 1911 and 141 in 1912.† There is, thus, not much evidence of any fall of prices which might be attributed to the withdrawal of 9 crores from circulation

It may be here emphasised that economic forces which tend to contract the circulation and lower prices never work so smoothly and automatically as is generally supposed The classical theory of the distribution of precious metals through changes in prices has certainly the merit of simplicity The amount of money needed by a country, says General Walker, "is that amount which will keep its prices (after allowance is made for the cost of transporting goods) at a level with those of the countries with which it has commercial relations".‡ This is the old Ricardian doctrine It contains an important element of truth, but it ignores economic friction It is generally recognized that this theory, stated baldly and without qualification as Ricardo stated it, is not true.

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* The active circulation of rupees and currency notes is estimated to be 190 crores in 1907 and 181 crores in 1908 *Prices Report, p. 92*

† General average of rupee prices. See *Prices Report, p. 30*

‡ *Money by Walker*, p 57

Further, the export of gold from a country, when it does take place, may make such an infinitesimally small addition to the world's gold circulation, that the effect upon the world's price level may be *nil* The last point is important Mr Shirras has no hesitation in saying that the sale of Reverse bills in 1907-08 had the effect of contracting the circulation in India, which lowered Indian prices, imports thus tended to decrease and exports to increase His argument, if anything, means that, as a result of the export of gold from India, world prices rose while Indian prices fell, so that India became a good market to buy in and a bad market to sell in The suggestion that the withdrawal of 9 crores from circulation in India had that effect seems to be wholly unwarranted

The Ricardian theory, as Professor Kinley says, is "too simple and sweeping" And if the flow of gold under the influence of changes in prices is not immediate and complete, it is possible that a country "may for a time hold its supply of money at a level relatively higher than that of the world at large, and during that time many consequences of great importance to individuals and classes may occur because of the difference in level "*

According to the classical theory gold is imported or exported, and the amount of the circulating medium increases or decreases, according as the level of prices in a country is lower or higher than the world's price level But it is easy to show that the inflow and outflow of gold has generally no appreciable effect on the export and import of goods Apologising for introducing evidence on so simple a point, Laughlin shows that while prices in the United States were rising from 1878 to 1883, instead of a falling off in the value of exports there was an advance "Indeed instead of a restriction of exports because of the imports of gold there was a heavy excess of exports over imports of goods during the whole period"* In the case of our own country the average annual imports of treasure (net) in the quinquennium 1909—10 to 1913—14 amounted to 38 9 crores as compared with 26 3 crores for the quinquennium 1904—05 to 1908-09 and yet prices were higher in the former quinquennium

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* "*Money*" *by Kinley, p. 95*

It thus appears that if a country's currency consists of token coins which are convertible into gold only for the payment of international indebtedness, and if the balance of trade is in the country's favour, so that the supply of tokens constantly increases, in time the currency may become redundant In the long run of course, the rise of prices would lead to the exportation of the excess currency and prices must fall, but the long run may prove to be a very long run indeed And in the meantime, because of the depreciation of money, important consequences may occur to various classes of the community

Exchange and the Level of Prices.

One of the arguments used by Mr Datta in support of his view that the rise of prices was not due to the redundancy of currency is that from 1898 to 1912, the exchange value of the rupee in terms of gold never fell below 1s 4d except in 1908—09 †

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* *Principles of Money, p 574*

† "Throughout the period under enquiry there were also no signs of a redundancy of rupees for any length of time as it would have led to the export of gold in the form of currency or bullion and a continued fall in exchange The statement below shows the imports and exports (less the quantity of gold produced in India) of gold and rates of exchange It will appear that since the stability of the gold value of the rupee was established, exchange fell below the fixed ratio of 16*d* per rupee only in the year 1908 09, and there were signs of redundancy of rupees for a part of that year, when the export trade was

According to Mr Datta there were signs of redundancy of rupees for part of that year. But the redundancy of currency is not regarded as one of the causes of the crisis in exchange of 1907-08 The crisis in America and the heavy decline in Indian exports sufficiently explain the situation which arose in India in the latter part of 1907 The number of importers, for the time being, being greater than the number of exporters, the supply of foreign bills was less than the demand and exchange fell "It is when the holder of rupees is looking about for sterling in order to pay his debts to his creditors in Manchester that a fall in exchange occurs"* The difficulty was increased by the policy adopted by the Government in regard to gold at the beginning of the crisis It is said that when the crisis came some one asked for £10,000 of gold from the Accountant-General of Bombay, and the Accountant-General said, "Why do you ask for it ? Sir Edward Baker, the Finance Member, was wired too and he said "Gold is not for export, it is only for internal purposes" If the Government had given gold freely for export, or which is the same thing, declared their intention of selling sterling drafts on London freely as soon as exchange began to fall, exchange would not have fallen below specie point, whether the currency was redundant or not And when they actually did announce their intention of selling Reverse Councils, the fall in exchange was arrested. This point deserves emphasis, for under a gold exchange system, that is a system under which the rate of exchange is controlled by Government, the stability

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stagnant and there was a financial crisis in America, but the Government of India were, by selling bills on London, able to immediately arrest the downward course of exchange, and the imports of gold more than recovered in the next year Except, therefore, for only a portion of a year, there have been no indications of redundancy of coinage in India" (p 94)

*Sir Lionel Abrahams in his evidence before the Chamberlain Commission of exchange is no argument against the redundancy of currency, nor is a temporary fall in exchange a necessary consequence of inflation There is, in fact, very little connection between the volume of a token currency and a 'managed' exchange Interesting evidence on this point was given by Sir Lionel Abrahams of the India Office before the Chamberlain Commission —

"I think the connection between the volume of token coinage and the stability of exchange is very remote, as indeed is shown by the fact that now at this moment the token coinage is of greater volume than ever before, and I think one might almost say that exchange is more stable than it ever has been According to my view the stability of exchange depends on trade conditions, and trade conditions may be affected, I admit, but are slowly and indirectly affected, if at all, by changes in the volume of currency"

Important changes in the volume of currency would affect exchange in the long run If the currency expands, other things being equal, prices must rise The rise of prices encourages importers, discourages exporters and tends to turn the balance of trade against the country Exchange, therefore, falls A contraction of the currency, similarly, lowers the level of prices and tends to raise the exchange value of the token currency, other things being equal But other things are never equal, and it was never more true than in the present case that long period results do not exist, their universe is the abstract

Increase in the Rupee Circulation as compared with the Growth of Business, 1890—1911.

Mr. Datta's conclusion that the increase in the quantity of rupees in circulation had no important effect upon the level of prices is based upon his statistics of the growth of business. These statistics show that in 1911 business increased 122 per cent. and that the growth was specially marked from 1904 More currency was therefore required to satisfy the growing needs of trade Mr Datta says "In the absence, therefore, of any marked increase in the rapidity of circulation of currency and credit—and we have had no evidence of any remarkable change in the rate during the last two decades—the demands of business would necessitate a corresponding increase in the volume of currency and credit But the volume of rupees and currency notes in actual circulation has increased only 60 per cent as compared with the 120 per cent increase in the growth of business"* Considering that the supply of rupees increased much less rapidly than the demand, prices should have fallen The development of credit, however, was much more rapid than the growth of business, and the growth of credit, according to Mr Datta, had an important effect on the level of prices

The effect of credit upon prices in India has already been discussed It remains to consider whether the increase in the volume of money, apart from credit, was less rapid than the growth of business The following points may be noted —

1 Mr Datta's estimate of our rupee circulation does not include the circulation of sovereigns But the sovereigns formed part of our circulation before the war and their absorption into the currency was increasing every year, and for that reason they should have been included in the estimate of the active circulation in considering its effect upon prices

2 Mr Datta neglected the circulation of small silver coins without giving any reasons The fractional silver currency is used daily in retail transactions of all kinds. The rapidity of circulation of these coins is also great Mr Atkinson regarded the circulation of small silver coins as an important item in India "The circum-

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* *Prices Report*, p 92

stances of India are such, wages being comparatively so low that the circulation of small silver coins might, at any time, if issued in too large or too small quantities, assist in inflating or contracting the currency, and consequently in estimating the total active monetary circulation, the circulation of small silver coins should be included" Four half-crowns, according to Dr Marshall, affect prices in the same way as a half-sovereign (*Gold and Silver Commission, Q 9629*) Similarly two half-rupees or four quarter-rupees have the same effect upon prices as a whole-rupee

3 According to the Prices Committee there was not "any marked increase in the rapidity of currency and credit" during the period under enquiry The rapidity of circulation depends upon certain technical conditions, it increases with the development of the means of transportation and communication, increasing density of population and concenteration of the population in towns, the growth of prosperity, and the growth of business confidence. All these causes, as shown by Mr Datta himself, were at work during the period under enquiry, and it is impossible to believe that the rapidity of circulation was not affected The increase in the rapidity of circulation was remarkable enough to attract Dr Marshall's attention, who referred to it in his evidence before the Fowler Committee (Q 11,160)

It may be doubted whether the general index number of the growth of business of the Prices Committee is reliable The general index number is an unweighted arithmetic average of the index numbers of the value of imports and exports of merchandise and treasure (excluding Government stores), tonnage entered and cleared with cargo; imports, and exports, coasting trade, passengers and freight carried by railways, Treasury and Presidency Port Trust and municipal transactions, receipts and payments, capital of joint-stock companies registered in India, and consumption of rice, wheat, jute, cotton and coal

These indices are not of equal value for measuring the growth of business, some of them are, at best, indirect indices of trade The increase in the number of passengers and the amount of freight carried by railways may well have been due to the expansion of the railway system and not to any proportionate increase in production, the growth of capital of joint-stock companies is also used as an index of credit Again, treasure should not have been included in the statistics of imports and exports, for our concern is with goods only, and quantities of imports and exports should have been taken instead of values The values of exports and imports may increase in a certain proportion, not because the export and import trade has increased in that proportion, but because prices have risen

As a matter of fact, the index number of imports, calculated at the average prices of the respective articles for 1890-91 to 1894-95 rose to 173 in 1911-12 and that of exports to 164, the average index number of foreign trade thus rising 69 per cent as compared with Mr Datta's 120 per cent increase in 1911-12

This part of Mr Datta's work is obviously of the roughest possible nature It has been shown that Mr Datta under-estimated the supply of money by not including in his estimate the circulation of sovereigns and the fractional silver currency, and by ignoring the probable increase in the velocity of circulation As regards the growth of business it is certain that the index number 222 for 1911 is an over-estimate.

It is impossible to measure the growth of business with any degree of precision where complete statistics of production of all kinds are not available. But some rough idea of the fluctuations in business may be gained from the study of agricultural production and of foreign trade during the period The following table shows the index numbers of the estimated production of the principal crops and of foreign trade —

Index Numbers, the average of 1890-91 to 1894-95 = 100.

	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12
I Production								
Rice	104	100	101	81	91	113	111	107
Wheat	104	111	109	72	93	113	116	123
Barley	106	110	110	108	114	130	124	134
Juwar	96	89	105	84	106	106	105	80
Bajra	88	98	128	89	129	115	133	90
Ragi	101	99	102	109	109	123	113	101
Maize	111	106	126	96	135	143	131	101
Gram	84	84	97	39	80	106	111	113
Other food grains	90	90	105	86	91	112	113	119
Linseed	86	77	90	40	65	92	119	149
Rapeseed & mustard	89	103	111	92	110	133	137	129
Til	106	111	132	90	117	143	129	108
Sugarcane	94	83	93	82	71	83	86	93
Cotton	163	143	186	126	155	185	164	141
Jute	110	158	171	195	119	124	133	155
Indigo	37	30	41	32	21	24	22	24
Tea	172	171	187	188	190	199	201	206
Tobacco	95	107	112	95	84	105	114	108
Average	104	104	117	89	105	121	120	116
II Foreign Trade								
Imports	110	115	115	162	156	159	170	173
Exports	119	110	139	141	127	156	159	164
Average	115	113	142	152	142	158	165	169
Average of production and foreign trade	125	124	130	111	123	140	143	143
Currency	126	142	145	139	152	152	160	164
Rupee prices	116	129	133	143	133	132	134	141

Index Numbers of production have been taken from the *Prices Report*, Vol. III, pp 392 403 and those of foreign trade from the same report, Vol. IV, pp 20-1 The latter represent the value of imports and exports calculated at the average prices of the quinquennium 1890-91 to 1894-95

The index numbers of the growth of currency show the fluctuations in the circulation of rupees and notes, the average of 1890-94 = 100 *Prices Report Vol I p* 92 For the index numbers of rupee prices see the *Report*, p 30

It is not pretended that these index numbers give a complete view of Indian production. But India is an agricultural country, and fluctuations in agricultural production and foreign trade must largely determine the course of business activity in the country

The comparatively small increase in agricultural production in 1911-12 as compared with the basic period will be noted Foreign trade increased much more rapidly On the whole these figures do not suggest that business during the period under enquiry was growing more rapidly than the supply of money

CHAPTER IX

INDIAN PRICES DURING AND AFTER THE WAR.

The Great War marks a new epoch in the history of Indian as of world prices.

There are two chief features of the movements of our prices during the war and the two or three years immediately following it (1) greater rise in the prices of exported than imported articles, and (2) smaller extent of of the rise as compared with that in the leading European countries or the United States

Before the war the rise of prices in India was greatest in the case of exported articles, and Mr Datta has calculated the gain resulting therefrom to India in the period 1895-96 to 1911-12 [*] For reasons which will be discussed later the prices of imported articles in India rose to a greater extent in the period 1913-20 than those of exported articles This is shown by the following table —

[*Table.*

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[*] *Prices Report pp 138-39.*

Index numbers showing the rise of prices in 1920
(1913 = 100)

Serial No	Articles	Index number 1920 (1913 = 100)*
	Exported articles	
1	Rice, average of *Mooughy* and *Ballam*	161
2	Wheat, Calcutta, Club No 2	188
3	*Jowar*, retail	183
4	Bajra ,,	181
5	Gram ,,	211
6	Barley ,	160
7	Ragi	210
8	Sugar, Dulloah, Calcutta	277
9	Tea, average	95
10	Ghi, Calcutta	186
11	Linseed, Calcutta	219
12	Rapeseed, Calcutta	185
13	Sesamum or til, Calcutta	132
14	Poppy, Calcutta	160
15	Castor oil, Calcutta	151
16	Jute, raw average	110
17	Jute, manufactured, gunny bags	116
18	Cotton, raw, Broach, (Bombay)	163
19	Cotton manufactures, Yarn, 20s, Bombay	308
20	Do T cloth, Bombay	269
21	Silk, raw, Calcutta	172
22	Wool, raw, Karachi	121
23	Hides, raw, Bengal	74
24	Skins, Madras (average)	239
25	Coal, free on rail	239
26	Lac, shell, average	503
27	Saltpetre, Calcutta	116
28	Indigo, Calcutta	295
	Total index number for 28 exported articles	5454
	Average ,,	195
	Imported articles	
29	Sugar, Mauritius, (Bombay)	477
30	Salt, Liverpool, Calcutta	280
	Cotton manufactured	
31	Grey shirtings, Calcutta	283
32	Grey yarn, Calcutta	337

Index numbers showing the rise of prices in 1920 (1913 = 100)—contd

Serial No	Articles	Index number 1920 (1913 = 100)*
33	Coloured yarn, Calcutta	304
34	Silk, raw, Canton Bombay	213
	Metals	
35	Iron, Calcutta	323
36	Copper, Calcutta	142
37	Spelter, Calcutta	142
38	Coal, Bombay	209
39	Kerosine oil	221
	Total index number for 11 imported articles	2931
	Average ,,	266
	Average index number for 39 articles	215

Prices in India were highest in 1920, thereafter they fell It is seen that while the index number for 28 exported articles rose to 195 in 1920, that for 11 imported articles rose to 266 Among exported articles the rise of price was greatest in the case of sugar, cotton manufactures, skins, coal, lac and indigo Taking both exported and imported articles together, prices, on an average, a little more than doubled in 1920 as compared with the pre-war year 1913

In addition to the index numbers of the Commercial Intelligence Department, which show annual fluctuations, we have two series of index numbers showing monthly fluctuations index numbers of wholesale prices in Calcutta (Indian Trade Journal) and those of wholesale prices in Bombay (Bombay Labour Gazette). In both cases prices in July 1914 are taken as 100 The Bombay series is based on the prices of 44 articles, and that for Calcutta on the prices of 71 articles The groups included in the Calcutta index, but excluded from that for Bombay are tea, raw jute, jute manufactures and building materials (teak wood), the details of the different commodities included in both the indices are also different The method of constructing the index is the same in both cases—the unweighted arithmetic average is used, and certain important commodities are indirectly weighted by securing quotations for more than one grade of such commodities Both indices indicate a movement of prices in the same direction, but not to the same extent

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* These index numbers are based on prices given in *Index Numbers of Indian prices*, 1861 to 1926 (Commercial Intelligence Department)

While prices in Calcutta rose to their highest point in 1920, the extent of the rise in the case of different groups was unequal There was a sharp rise in the price of raw cotton in 1918, of cereals and pulses in 1919, and of sugar and cotton manufactures in 1920

The climatic conditions in 1918 were adverse, and they affected both the autumn and the spring crops. The season was on the whole favourable in 1919, but again in 1920 the rainfall was deficient over most of the country The effect of the seasons is well brought out by the following statement showing the price of food grains in India from 1913 to 1927 -

Price in seers per rupee.

	Rice	Wheat	*Jowar*	*Bajra*	Gram	Barley	*Ragi*
1913	7 7	10 8	13 3	12 1	14 0	15 5	12 6
1914	7 6	9 1	12 2	10 8	10 5	13 3	11 8
1915	6 7	7 4	12 5	10 6	10 8	12 7	14 5
1916	6 4	8 3	14 3	11 3	12 0	13 3	14 9
1917	7 9	8 1	13 0	11 9	12 1	14 2	13 7
1918	9 7	7 2	7	7 2	9 5	11 5	11 2
1919	5 7	4 9	5 7	5 2	6 0	8 5	6 0
1920	4 8	5 7	7 3	6 7	6 6	9 7	6 0
1921	5 3	5 5	6 4	5 6	5 9	8 3	7 8
1922	6 0	4 9	8 7	7 0	7 3	9 7	8 5
1923	7 0	7 3	11 7	9 7	12 5	14 9	9 1
1924	6 8	7 7	10 5	9 3	12 2	13 1	8
1925	5 5	6 5	8 5	7 6	9 9	10 1	8 8
1926	5 7	6 1	7 5	7 2	8 7	9 8	9 4
1927	5 5	7 0	8 5	8 2	8 5	10 5	8 6

(*Index Numbers of Indian Prices* [illegible]. The price of rice and wheat is wholesale and that of other food-grains retail. It is pointed out in the *Index Numbers* that in India the cost of retailing is generally small and the relation between retail and wholesale prices of these food-grains is accordingly close.)

As compared with 1913 (=100) the rise in the prices of wheat and the coarser grains in 1919 was as follows:—

Wheat	221
Jowar	233
Bajra	236
Gram	233
Barley	181
Ragi	209

The price of rice rose less—61 per cent in 1920.

Prices in most countries were highest in 1920 as in India, but the extent of the rise (with very few exceptions) was greater than in India. As compared with the pre-war average (which has not the same meaning in the case of different countries), the rise of prices in 1920 was as follows:—

Country	No of articles	Index No
India (*a*)	71 (Calcutta)	201
,,	44 (Bombay)	216
China (Shanghai) (*b*)	147	152
Japan (*b*)	56	259
Australia (*b*)	92	228
Egypt (*c*)	26	316
United Kingdom (*b*)	150	307
France (*b*)	45	509
Holland (*b*)	48	292
Norway (*d*)	100	377
Sweden (*e*)	47	347
Canada (*b*)	236	244
United States (*b*)	404	226

The causes of the rise of prices till 1920, and of the subsequent fall are so well known that a detailed discussion is not necessary The general rise of prices in almost all countries was due to inflation prices rose to a greater extent in countries more directly involved in the war on account of the greater amount of inflation in these countries

Inflation in India (as in most countries) took place chiefly through additions to the note circulation, and it may be interesting to study the expansion of the note circulation since 1913-14

On the last day of March 1914 the total note circulation amounted to 66 crores The outbreak of war caused some loss of confidence, and in 1914-15 the note circulation actually contracted. But from 61 6 crores on 31st March 1915 the gross circulation grew rapidly until it amounted to 174½ crores on 31st March 1920—an addition of over 100 crores in 6 years

With the increase in the total circulation the invested portion of the Paper Currency Reserve rapidly increased and the proportion of the metallic Reserve to the total

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(*a*) July 1914 = 100 (*b*) 1913 average = 100 (*c*) Average January 1913 to July 1914 = 100 (*d*) Average for half-year ended June 1914 = 100 (*e*) Average for year ended June 1914 = 100 circulation rapidly declined Before the war the invested portion of the Reserve was limited by law to 14 crores. Between November 1915 and December 1919 the legal limit was increased to 120 crores Further, on 31st March 1915, of the total securities in the Reserve, 4 crores were British and 10 crores Indian securities But British Treasury Bills now began to be used as cover against notes issued in India The Government made heavy purchases in India on behalf of the British Government, which were paid for by the issue of notes against British Treasury Bills The amount of such note-issue was increased by special Acts until it reached a total of 100 crores in 1919 (Act XXVI of 1919) *

On 31st March 1918 the proportion of the gold and silver held in the Paper Currency Reserve in India amounted to 38 per cent. of the total circulation, and on the last day of May of the same year this proportion fell to 22 4 per cent

Before the war the provision of ample facilities for the conversion of notes into rupees was a cardinal feature of

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* In March 1920 legislation was passed which did not reduce the limit of permissible investment in securities (120 crores) but abolished the restriction as to the locale of the investments and their sterling or rupee character By a further Act, passed in the same year (Act XLV of 1920) effect was practically given to the recommendations of the Babington Smith Committee regarding the constitution of the Paper Currency Reserve The Act contained both temporary and permanent provisions Under the former, which came into effect on October 1, 1920, the rupee and sterling securities in the Paper Currency Reserve were limited to 85 crores instead of 120 crores The permanent provisions of the Act, (1) fixed the maximum of the fiduciary portion of the Paper Currency Reserve at 50 per cent. of the total circulation, exclusive of that based on commercial bills, and (2) authorised the issue of notes against commercial bills of exchange maturing not later than 90 days to a limit of 5 crores

The maximum limit of seasonal issue was raised from 5 crores to 12 in 1923 24 and the Paper Currency (Amendment) Act of 1925 increased the limit of rupee and sterling securities in the Reserve from 85 to 100 crores The changes regarding the management of the Paper Currency and the constitution of the Paper Currency Reserve recommended by the Currency Commission of 1925 are discussed elsewhere in the book.

the policy of the Government. Soon after the price of silver began to rise, the absorption of rupees into the circulation began to increase, and the necessity of conserving their reduced stock of rupees compelled the Government to change their policy Facilities for the encashment of notes at District Treasuries were largely withdrawn, the conveyance of specie by rail and river steamer was prohibited and an embargo was placed on its transmission by post Later, in January 1919, owing to difficulties experienced in meeting in full the demands for encashment at the Currency Offices during the busy season, the daily issues of rupees to single tenderers of notes were limited The inevitable result of these restrictions was the depreciation of paper money At one time there was serious danger of the note-issue becoming inconvertible, and inconvertibility could not have been avoided but for timely help received from the United States of America The United States Congress passed the Pittman Act on 23rd April 1918 which authorised the sale to other Governments of silver not exceeding 350,000,000 silver dollars from the holding in the dollar reserve Of this amount the Government of India acquired 200,000,000 fine ounces To supplement the supply of silver currency sovereigns and gold mohurs were issued in 1917 and 1918, but when increased supplies of silver became available the coinage of gold was discontinued, after 2,110,000 gold mohurs and 1,295,000 sovereigns had been coined

Inflation would account for a large part of the rise in the prices of articles produced in the country and exported. Generally speaking, there was no shortage in the supply of food-stuffs and raw materials in India except in 1918 and 1920

The rise in the prices of manufactured goods was in a large measure due to shortage. The cessation of trade with enemy countries and the heavy decline in imports from Allied and neutral countries sufficiently explain the shortage of imported articles —

Quantities of imports of principal articles of private merchandise †

	1913-14	1918-19
Boots and shoes, 1000 pairs	3295	638
Coal, coke, etc , 1000 tons	559	67
Cotton piecegoods, million yds	3199	1123
Glass, sheet and plate, sup ft	17	5
Iron and steel, 1000 tons	1018	181
Copper, 1000 cwt	746	58
Zinc or spelter, 1000 cwt	134	93
Tin ,,	42	28
Lead ,,	127	121
German silver, ,,	25	
Mineral oil, million gals	95	60
Salt, 1000 tons	606	420
Silk piece goods and mixed, million yds	35	19
Soap, 1000 cwt	1227	199
Sugar, 1000 tons	1274	525
Wollen piece-goods, million yds	27	6

The decrease in imports between the years 1913-14 and 1918-19 was continuous and the position in 1919-20 was, in most cases, practically the same as in 1918-19. The revival of the import trade dates from the year 1920-21

On the last day of March 1927 the total circulation of notes amounted to 184 crores, or about 18 crores more than on 31st March 1920 Coinage, however, has been much restricted In the four years 1916-17 to 1919-20 the coinage of silver at the Calcutta and Bombay mints amounted to no less than 144 crores, or an average of 36 crores annually Between 1922-23 and 1926-27 the coinage of silver annually did not exceed a crore

Our prices have fallen since 1920 in a large measure in sympathy with foreign prices

We may conclude our discussion of prices with a few general observations

A well-known American writer ascribed the slower movement of Indian prices during the war to the influence of custom and defects in commercial organisation.

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† *Statistical Abstract for British India*, 1st Issue of the New Series

> "Oriental prices in the past have moved more sluggishly than occidental prices Commercial organisation is less advanced and custom plays a larger role in economic as well as in social life The remarkable fact brought out by the Japanese and Indian comparisons is not that increase in price was less than that in the distant seat of war or in America, on which the belligerents were drawing so heavily for supplies from the beginning of hostilities It is rather that the revolution of European prices caused by the war affected so powerfully the economic fortunes of the brown and yellow millions on the opposite side of the globe "*

Indian commercial organisation may be less advanced than the American or European, and there is much economic friction in India That, however, did not prevent Indian prices from rising more rapidly before the War than European prices The slower movement of Indian prices during the War was, as we have seen, not due to the influence of custom or defects in commercial organisation but to the fact that the causes which raised prices in Europe and America were working in India in a much attenuated form

Western writers have always regarded India as a land of custom and tradition Like Mitchell, Kemmerer, a close student of Indian currency problems, in accounting for the absence of any appreciable correlation between the rise in exchange and the fall in prices during the period 1895-99 invokes the aid of custom —

"While there are forces that tend to cause a rough correlation between the two movements, the price movement tends to lag behind the 'exchange' movement, and the response is particularly slow and impeded by economic friction in a country like India, with its isolated communities, and its respect for custom "†

And again —

"While India's exports and imports in the absolute

**International Price Comparisons* by W C Mitchell p 37.

†*Modern Currency Reforms*, p 63

are large, still, in the main, the people of India live on their own products, and a large part of those products run their life history from production to consumption in a very small territory They have only the remotest connection with foreign trade, gold, and the gold exchanges"

One familiar with Indian economic conditions at the present time would be inclined to regard the emphasis placed on the isolation of communities and on custom as extravagant So far as the determination of prices is concerned, particularly the prices of commodities which are exported and imported, the influence of custom in India is neither greater nor less than in other countries India is no longer an isolated country There are no large isolated communities in India India is covered by a network of railways which have closely inter-connected the remotest parts of the country The isolation of the Indian village is a thing of the past—it was broken by the railways That the price movement should have lagged behind the exchange movement in 1895-99 is not incomprehensible That would be so not only in India but in most countries It is also not true that a large part of our products have "only the remotest connection with foreign trade, gold, and the gold exchanges" Almost all important food-grains and raw materials are exported in large or small quantities all kinds of manufactured goods are imported The extent to which we do not live on our own products, particularly as regards manufactured goods, was fully realised during the War Foreign trade has much to do with the prices of our food-grains and raw produce. The prices of millets like *jouar* and *bajra* may not be directly governed by the world price, but they are influenced by fluctuations in the price of wheat And the effect of the sensational rise in our exchange in 1920 to 2*s.* 10½*d.* and of the equally sensational drop in exchange in 1921 upon our export and import trade and the prices of exported and imported articles is only too well known.

India is changing very rapidly, politically as well as economically The semi-mediæval conditions which most European writers imagine still exist in India, have disappeared The study of prices alone would show that the India of to-day is very different from the India of fifty years ago.

As regards the effects of the rise of prices, there is a general agreement now that the rise in the price of food-grains is not an unmixed blessing to an agricultural country like India It enriches the large farmer who has a good deal of land and who produces more than he consumes. But India is a land of small farmers—the average size of the holding, as we have seen, is small, and it tends to grow smaller The Babington Smith Committee recognised (and the views of the Committee were fully accepted by the Government of India), that "The agriculturist who has little surplus produce to sell and lives on what he produces would, in so far as he maintains himself on his own produce, be unaffected by a rise in the price of food-stuffs," and that very often the increase in value benefits, not the cultivator but the money-lender, who makes advances to the cultivators for his maintenance and seed The Government of India in a memorandum submitted to the Committee stated that 'There is no longer any room for doubt that the resultant increase in the expense of living due to the high prices of food-grains, also of other necessaries, such as cloth, kerosine oil, and the hardship which the increase has entailed on the poorer classes and those on fixed incomes has been a very important factor in promoting unrest and discontent"

One is glad to note that the Government and official writers generally take a more sensible view of the whole question now than they did sometime ago Not long ago the theory was propounded by Mr Datta of the Prices Enquiry Committee that rising prices were beneficial to an agricultural country. "There can hardly be any doubt," he said, "that in an agricultural country like India, rising prices would be beneficial to the country as a whole."* The view that the greater portion of the community is benefited by falling prices, Mr Datta thought, was applicable to an industrial country, not to an agricultural country like India, where 73 per cent of the population are dependent upon agriculture. But in a memorandum which he prepared for the Babington Smith Committee we find Mr Datta speculating as follows regarding the effects of the rise in the prices of agricultural produce:

"A considerable proportion of the agriculturists and labourers live from hand to mouth, and the unprecedented rise in the prices of the bare necessaries of their lives is pressing very hard upon them. The only classes of agriculturists who are able to sell a considerable share of their own produce and thus get a substantial income are those who grow rice in Burma, wheat, cotton, oil seeds and jute, and even many of these cultivate these things only to a comparatively small extent, and were able to save little or nothing in pre war times. The total acreage cultivated with these crops is only about 25 per cent. of the total cultivated area, namely rice in Burma 4, wheat 9.5, cotton 5.0, oil seeds 5.1, and jute 1, so that high prices may at best benefit only 25 per cent of the agriculturists, or about 12½ percent of the whole population. In many of these cases ignorant and uneducated as the great majority of them are, the profit, accruing from high prices have not reached them, but have only filled the pockets of the middleman and exporter. A fall in prices will therefore be welcome to probably about 85 per cent of the population."

It is somewhat difficult to understand how the great majority of the population were benefited by the rise of prices before the War if the fall of prices after 1920 was welcome to 85 per cent of the population. The percentage of the total area cultivated with rice, wheat, cotton, oilseeds and jute was not higher before the War when Mr. Datta made his investigation. One would also think that the Indian cultivator was not less ignorant and uneducated in the pre-War days than now, and therefore it was not more difficult for the middleman and the exporter to cheat him of his legitimate profits than at the present time.

**Prices Report*, p 136

Value of coinage in lakhs of Rs.†

	Silver[1]	Nickel[2]	Bronze[3]	Total
1913-14	1315	28	20	1363
1914-15	217	26	4	247
1915-16	162	4	1	167
1916-17	3077	24	7	3108
1917-18	2387	41	16	2444
1918-19	5205	157	20	5382
1919-20	3772	250	28	4050
1920-21	341	55	15	411
1921-22	160	16	1·4	177
1922-23	62	5	9	68
1923-24	50	21	1·3	72
1924-25	33	38	2·6	74
1925-26	30	45	6·5	82
1926-27	50	28	6·4	84

[1] Rupee, ½, ¼ and ⅛ rupee.

[2] ½, ¼, ⅛ rupee and 1 anna.

[3] Single pice, ½ pice and pies.

Paper Currency†.

	Gross circulation on 31st March Lakhs	Proportion per cent of gold and silver held in India to gross circulation
1914	6611	65
1915	6162	65
1916	6773	52
1917	8637	36
1918	9979	38
1919	15346	38
1920	17452	48
1921	16615	54
1922	17476	58
1923	17470	64
1924	18585	55
1925	18419	54
1926	19334	55
1927	18413	69
1928*	18826††	76
1929*	18803	71

† The figures are taken from the *Statistical Abstract for British India* or based on those given in the Abstract

* Return of notes in circulation published in the *Capital* of Calcutta, dated 11th April 1929

†† Figure for 28th March.

Index Numbers of Wholesale Prices in Calcutta by Groups of Articles.

(Prices in July 1914=100)

	Cereals	Pulses	Sugar	Tea	Other food articles	Oil seeds	Oil Mustard	Jute raw	Jute manufactures	Cotton raw	Cotton manufactures	Other textiles, (wool and silk)	Hides and skins	Metals	Other raw and manufactured articles	Building Materials (Teak wood)	All commodities
End of July 1914	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Annual average for 1915	115	122	164	115	121	81	78	68	109	89	97	94	102	120	128	99	112
,, 1916	106	107	184	114	146	85	71	80	129	121	134	114	118	186	155	80	128
,, 1917	92	96	189	95	185	83	71	95	138	174	203	129	112	266	183	103	145
,, 1918	110	119	180	95	226	104	104	75	219	309	298	145	96	301	184	143	178
,, 1919	163	180	268	105	206	198	161	115	175	230	295	119	184	236	192	137	196
,, 1920	154	166	407	78	184	173	128	104	149	153	325	162	147	238	231	138	201
,, 1921	145	160	270	100	157	135	108	83	105	143	280	142	108	237	242	146	178
,, 1922	137	152	221	159	186	147	116	110	144	191	239	162	120	175	235	131	176
,, 1923	114	112	246	206	222	138	100	90	138	244	221	163	135	165	207	120	172
,, 1924	123	114	239	205	217	144	107	102	159	272	229	146	124	162	193	108	173
,, 1925	136	128	179	180	184	146	113	154	177	205	210	132	104	131	165	119	159
,, 1926	140	149	178	180	163	134	117	120	147	147	178	119	113	140	141	132	148
,, 1927	139	155	171	165	168	143	116	93	146	167	159	126	119	133	151	146	148
,, 1928	133	158	165	154	157	142	110	100	151	167	159	139	134	125	140	150	145

(*Indian Trade Journal, Jun 31 1929*)

CHAPTER X.

INDIAN CURRENCY, 1835—1897.

The rupee was established as a standard coin throughout the territories belonging to the East Indian Company in 1835 Before that date a great variety of gold and silver coins circulated in different parts of the country, silver rupees being used chiefly as standard money, while the value of gold coins depended upon the market price of gold The circulation of several denominations of coins in the country caused great inconvenience to the trading community and to the Government, and we find the Court of Directors, in their Despatch dated 25th April 1806, approving the recommendations of their officers in India "for the adoption of one general system for the formation of the coins for the currency of the whole of our possessions on the continent of Asia," for they were "fully satisfied the evils complained of can only be removed by the introduction of a gold and silver coinage of one weight and fineness, such coin to become the universal measure of value for British India"*

No less than 27 varieties of rupees were current in Bengal, and in the Punjab, before the time of Ranjit Singh, currency conditions were not less chaotic. Ranjit Singh closed all the mints except those at Lahore and Amritsar, where the Nanakshahi rupee was first coined. The Nanakshahis were "the national currency" of the Punjab. They were divided into three series, called the *porane*, coined from 1796 to 1814, the *chulme*, coined from 1814 to 1824, and the *chilte*, coined after 1824. The *porane* circulated at a discount with the *chulme* and the *chulme* at a discount with the *chilte* All three were at a discount with the Company's rupee, in spite of their greater intrinsic value The artificial value given to the Company's rupee over the *porane* and the *chulme* was due to the fact that neither of those coins was received at the British treasuries [1]

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* Reprinted 1898 *East Indian Currency, No 127, para 4.*

About the same time 15 coins, in addition to the Company's rupee, were current in Rajputana, and they were "as much a marketable article as opium, cotton, or any other staple of commerce "[2]

In their Despatch of 1806 the Court of Directors clearly endorsed the principle that ' the money or coin which is to be the principal measure of property ought to be of one metal only," and decided that for India such coin must be of silver The standard weight of silver coins issued from the mints of the three Presidencies was as follows —

Calcutta Sicca rupee	179⅔	grains
Madras Arcot rupee	176⅖	,,
Bombay rupee	179	,,

The weight of the silver coin originally issued from the Moghul mints was one sicca, or 10 *massa* =179⅔ troy grains "We should be inclined," wrote the Court of Directors, " to propose this weight for the coin under consideration, did we not think it would answer a good purpose to fix the gross weight in whole numbers. we should therefore prefer the weight of 180 troy grains as the nearest to the sicca weight, and in so doing we are not aware of any inconvenience resulting therefrom at either of our Presidencies. but we are rather inclined to think the measure will be found useful, inasmuch as it will produce a greater degree of simplicity in the valuation of the coin in respect to other money." (Para. 8)

The Act No XVII of 1835 made the silver rupee of 180 troy grains, eleven-twelfths fine, the standard throughout British India The weight and the fineness of the rupee have remained unaltered since 1835

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[1] *Papers Relating to (East India) Coinage, 1860 (No. 254), p. 24.*

[2] *Ibid p 29*

The Position of Gold in the Currency

By section 9 of the Act of 1835 it was enacted that "no gold coin shall henceforward be a legal tender for payment in any of the territories of the East India Company" The Court of Directors, however, in the Despatch of 1806 had stated that "it is not by any means our wish to introduce a silver currency to the exclusion of the gold, where the latter is the general measure of value, any more than to force a gold coin where silver is the general measure of value"*

In para 16 of the Despatch they clearly defined their attitude towards the use of gold as currency —

"Although we are fully satisfied of the propriety of the silver rupee being the principal measure of value and the money of account, yet we are by no means desirous of checking the circulation of gold but of establishing a gold coin on a principle fitted for general use This coin, in our opinion, should be called a gold rupee and be made of the same standard as the silver rupee, *viz*, 180 troy grains, gross weight, and 165 troy grains, fine gold, also divided into halves and quarters, so that the coins of both gold and silver should be of the same denomination, weight and fineness."

In view of this pronouncement it is difficult to understand why the gold pieces coined under the Act of 1835 were deprived of the legal tender quality. By a proclamation issued in 1841 officers in charge of public treasuries were authorised to receive the gold coins struck under the provisions of the Act of 1835 at their denominated value, until they should have passed a certain limit of lightness, when they were to be taken as bullion only, by weight It is also not clear what was the precise object in requiring public treasuries to receive gold coins which were no longer legal tender It was certain that so long as the market price of gold exceeded the denominated price of the coin in silver, no gold would be brought to the Government, but if the market price of gold fell below the silver denomination of the coin, gold would accumulate in Government treasuries and this gold could not be used by Government in making payments to the public as it was not legal tender Such was actually the result of the proclamation of 1841 In a letter to the Court of Directors, dated 2nd July 1852, the Government of India pointed out that there was 30 lakhs of rupees worth of gold in Government treasuries which was of no use to them "This amount in itself," they said, "would not have embarrassed us, though obviously there is no advantage in being in possession of so large an amount of coin of which we can make no use in aid of the public expenditure in India But we have reason to believe that speculations are already in progress for forming connexions with Australia for the express purpose of bringing up gold when the direct line of steam communication is opened next year, in order to take advantage of the Government proclamation of 1841, by which gold is still receivable at 15 rupees to the so-called gold piece, and in this case we run the risk of being seriously inconvenienced by an excessive stock of this metal "†

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* *Para. 22.*

The Government of India proposed that the proclamation of 1841 should be withdrawn. The Court of Directors agreed with the Government that it was important at once to check the receipt of gold into the Indian treasuries, but they pointed out that the proclamation of 1841 was not intended to bear the interpretation which the Government had given to it It did not, they said, impose upon the officers in charge of treasuries an obligation to give silver for gold, but only authorised them "to receive gold in exchange for silver if it suited their convenience to do so" By a notification issued in December, 1852, it was declared that beginning with January 1853, "no gold coin will be received on account of payments due, or in any way to be made, to the Government in any public treasury within the territories of the East India Company" Gold, however, continued to be received into the mint for coinage under the Act of 1835

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† *Papers Relating to Coinage, East India*, 1860, pp 45-46

While the action taken by the Government tended to discourage the use of gold as currency, the fall in its price, consequent upon the discoveries of gold in Australia and California, considerably increased the demand for gold Memorials were submitted to Government by various Chambers of Commerce praying for the introduction of a gold currency The more important proposals made with a view to encourage the use of gold as currency were (1) the introduction of the sovereign or some other gold coin which should circulate at its market price from day to day measured in silver, (2) the introduction of the English sovereign as legal tender for ten rupees, but limited in amount to 20 rupees, and (3) the change of the monetary standard from silver to gold, silver tokens to be used as subordinate coins These proposals were examined by Mr James Wilson in a minute entitled "Proposals to introduce a Gold Currency in India," dated 25th December 1859 He thought, and rightly, that a gold coin whose value as measured in silver was fluctuating from day to day, could not be used as currency To the proposal to permit the circulation of the sovereign as legal tender to a limited extent of 20 rupees, his objection was that the sovereign would not circulate so long as its value was above the ratio at which it was made legal tender, and that every effort would be made to force it into circulation if its value fell below that ratio The result would be that those who received the sovereigns in payment of small sums (railway companies and small dealers, for example), would not be able to use them in making large payments without risk of loss This objection did not apply to a change in the standard from silver to gold, and Mr Wilson admitted that if Government "had to begin *de novo*, convenience would point to a gold standard with silver tokens as the best" But he thought that in a country where all obligations had been contracted to be paid in silver, to change the standard from silver to gold, because gold had depreciated would be to defraud the creditor for the advantage of the debtor and to break public faith His view was that a well-regulated paper currency was more desirable than gold in circulation, and he submitted his proposals for a Government paper currency in a seperate minute

To James Wilson's plan for a paper currency it was objected that the people of India would be slow to appreciate the advantages of paper money as from time immemorial they were accustomed to the use of money of intrinsic value

The case for the introduction of gold into circulation in India was ably argued by Sir Charles Trevelyan in a minute dated 20th June, 1864 Information collected by Sir Charles Trevelyan from all parts of India showed that there was a general desire for the introduction of gold coins in India, that the people of India were well-acquainted with the sovereign, and that there was every reason to think that the introduction of the sovereign would be well received and that it would circulate freely at 10 rupees The Secretary of State, however, did not think it advisable to make the sovereign legal tender, but as an experimental measure he suggested that the sovereign and the half-sovereign should be received into and paid out of public treasuries in India for ten and five rupees respectively, and effect was given to this proposal by a Government notification in November 1864 But the rate of ten rupees to the sovereign was below the market value of the sovereign, and therefore it failed to attract sovereigns to Government treasuries The rate was raised to Rs 10-4 for the sovereign and Rs 5-2 for the half sovereign in October 1868. Shortly afterwards the gold price of silver began to fall, which entirely changed the Indian currency situation, and the Government of India adopted the following Resolution on the subject of a gold currency on 7th May 1874 —

"The expediency of introducing a gold currency having been considered, the Governor-General in Council is not at present prepared to take any step for the recognition of gold as a legal standard of value in India"

The Fall in the Gold Value of Silver.

The fall in the gold value of silver commenced in 1873, and by 1893 it amounted to 40 per cent.

Expert opinion was divided as to the causes of the fall. On the one hand it could not be denied that the production of silver had increased The demand for silver had, at the same time, decreased owing to (*a*) the cessation of free coinage of silver in Germany, the Latin Union and Holland, and (*b*) diminution in the Indian demand for silver caused chiefly by increase in the sale of Council bills It would, therefore, appear that the change in the relative values of the precious metals was due to causes affecting silver On the other hand, there is a good deal of evidence to show that during the whole period, 1873—1893, gold was appreciating owing to causes affecting gold itself—decreased production and increased demand for industrial and monetary purposes If the purchasing power of gold and silver in terms of commodities is considered, it is found that the fall in the gold value of silver far exceeded the fall in the value of silver as measured by purchasing power over commodities either in China or in India, while the purchasing power of gold over commodities in England increased very considerably The movements of gold and silver prices unmistakably show that the change in the relative values of the precious metals was primarily due to the appreciation of gold, not depreciation of silver

Whatever be the causes of the fall in the gold value of silver, its effect on Indian finance was most serious The Home Charges amounted then to about £15,000 000 annually The Home Charges represent a sterling obligation of the Government of India, while the revenues of the Government are collected in silver Every fall in the gold value of the rupee thus meant a real addition to the burden of the Home Charges.

In a note dated 13th July 1876, R B Chapman, Secretary, Financial Department of the Government of India, pointed out that from 15½ times gold had risen to be worth about 20 times its weight in silver, and that the fall in exchange to 1s 7*d* had made it necessary for the Government to find 2 crores of rupees annually in excess of what they had at their disposal "The task," he wrote, "is formidable enough to cause dismay It will be requisite to give up all administrative luxuries and even some necessaries Resort must, moreover, be had even to new taxation. But a loyal and combined effort must be made I see no way of escape from the painful exigency"

Any considerable increase in taxation, however, was not practicable for political reasons and the situation was one of great difficulty.

Apart from increasing the burden of the Home Charges, the fall in exchange tended to check the investment of foreign capital in India and lowered the gold value of the salaries, paid in rupees, of the European employees of the Government It also made foreign trade a gamble in exchange.

In view of the ultimate establishment in India of the gold exchange system it is interesting to learn that as early as 1876 it was proposed to secure stability of exchange by closing the mints to the coinage of silver and giving the rupee an artificial gold value The main features of this plan were described in a letter by Major-General Richard Strachey to the Editor of the *Pall Mall Budget*, dated 10th August 1876 It was suggested that the mints should be closed to the free coinage of silver and the rupee coinage placed entirely under the control of the Government that as a temporary arrangement the mint should be opened for gold and that the gold value of the rupee should be fixed at about 1s 11*d* and notes issued against gold at fixed rates

The authorities in India did not appreciate the novel idea of establishing a gold standard with a currency mainly composed of token silver rupees issued by the Government. Major-General Strachey's letter called forth a spirited reply † from R B Chapman, Secretary, Financial Department of the Government of India, and in their Despatch to the Secretary of State dated 13th October

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† "I am astounded that you should propose such a tremendous heresy as a *permanent* divorce between the standard and the currency Surely this is nothing in the world but an inconvertible currency, limited, it is true [(though I observe that you would not even *limit* it absolutely), but still *inconvertible* If we are to go in for an inconvertible currency, why should we go the useless expense of having it in *silver*, surely it would be only commonsense to go to *paper* at once? I have seen plainly that we must go through a period of inconvertible currency of silver with a gold standard, but I have always looked upon this as an evil of the first magnitude from which we should use every exertion to escape at the very earliest opportunity It startles and staggers me that you should say that such a man as yourself, to say nothing of the rest of the powers that be at the India Office, should have been seduced into thinking otherwise for an instant. Have you not altogether under-

1876, the Government of India expressed their views on the proposal in no uncertain terms.[*]

The Government of India favoured the settlement of the silver question by international agreement, but they were of opinion that if an international conference failed to arrive at a satisfactory decision regarding silver, it would be necessary to stop the free coinage of silver and introduce a gold standard with a gold currency in India. An international Monetary Conference was convened at Brussels in 1892, but it suspended its labours on December 17, without coming to any definite conclusions. It was to meet again on 30th May, 1893, if the various Governments which were represented in it approved. But it never met again. A month before the meeting of the Brussels Conference the Secretary of State for India had appointed a Currency Committee, presided over by Lord Herschell to consider the proposals of the Government of India. The Committee accepted these proposals with some modifications. Acting on the advice of the Herschell

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rated the volume of our silver currency too? A true silver subsidiary currency must, I maintain, be treated as a note currency, i.e., it must be issued only in exchange for gold and the State should be compelled to give gold for it at convenient centres on demand, everywhere. Only on these conditions will a silver subsidiary coinage be on a really sound footing, and upon this footing even India will not want, I believe, more than 30 crores at the outset if indeed she wants as much. You cannot seriously think we could *for a permanency* avoid calling in the 170 crores of rupees that we should have in excess of our wants. Nor can I seriously believe that an accurate thinker like yourself would deliberately consent to entrust to any Government on earth the power to issue *token coinage* at its discretion *to pass as full legal tender*. No human Government yet existed who could be trusted with such a power."

[*] "We are thus quite aware that our standard of value might be enhanced without any immediate change in the body of our currency, and that we might, for a time, enjoy many of the advantages of a gold standard, without undergoing the expense of introducing a gold currency. But we wholly distrust the advice and conclusions of those who think that such a state of things could be tolerated permanently, or even for any considerable length of time; in other words, that we could introduce an enhanced standard, and yet, indefinitely, escape the obligation to introduce an enhanced currency."

Committee the Government closed the mints to the free coinage of silver by Act No VIII of 1893, passed on 26th June 1893 On the same date three notifications were issued, the first providing for the issue of rupees in exchange for gold presented at the Indian mints at the rate of 16*d* to the rupee. the second authorising the receipt of sovereigns and half-sovereigns by the Government in payment of taxes and other Government dues at 16*d* to the rupee, and the third providing for the issue of currency notes in exchange for British gold coin or gold bullion at the same rate

Foreign Trade, 1873—95

By itself a fall in exchange tends to check imports and to stimulate exports The imports are checked because the fall in exchange increases the cost, as measured in rupees, of the imported articles and reduces the profit of the importer, unless rupee price can be raised proportionately. Exports are stimulated (other things being equal) because the same gold price received for goods sold abroad means a higher rupee price But any serious check to imports must react on exports Further, it is contended that the producer or exporter makes a gain only at the expense of other classes of the community, particularly the labourers, and only so long as wages and other elements of cost do not rise In a Despatch to the Secretary of State, dated 9th November 1878 the Government of India considered it doubtful whether the fall in exchange had exercised any beneficial effect at all on the trade of India, they also pointed out that the effect of the fall had been much obscured by seasons of extreme drought, commercial depression and political troubles.

During the whole period of falling exchange (1873—95) imports into India increased by a larger percentage than exports The total value of imports of private merchandise in 1873-74 was 31, 62 lakhs and of exports, 54,96 lakhs. In 1894-95 imports had risen to 70,16 lakhs, or 122 per cent, and exports to 108,81 lakhs, or 98 per cent The greater expansion of the import trade as compared with the export trade is explained by the very considerable fall in gold prices which occurred during this period It would also seem that while a stable exchange is an undoubted convenience to trade, a country's foreign trade may prosper in spite of a fluctuating exchange

The 16*d* rate had been chosen as it represented the exchange value of the rupee in the years immediately preceding the closing of the mints to the coinage of silver Government hoped to prevent a fall in exchange below 16*d* by "starving the circulation" If, while population is increasing and trade is expanding, the growth of the currency is restricted, the effect would be to reduce the volume of the currency in relation to trade The closing of the mints was, however, followed by a further fall in exchange, and the fall continued until the rupee touched its lowest point, 12⅝*d* in January 1895. This was due to several reasons (1) Some 20,000,000 rupees were coined by Government immediately after the closing of the mints This represented silver received from banks and others shipped to India before the closing of the mints (2) Many millions of rupees were imported into British India, where the face value of the rupee was greater than its intrinsic value, from the Native States (3) Rupees also came out of hoards. (4) There was an increase in the net circulation of notes, as can be seen from the following figures —

	Lakhs of rupees
1892-93	26,40
1893-94	30,41
1894-95	30,70

(5) Finally, the Council bills sold by the Secretary of

State in 1894-95 amounted to about £17,000,000 as compared with £9½ millions sold in the preceding year The effect of the increase in the sale of Council bills was to reduce the cash balances in the Government treasuries and to increase the number of rupees in circulation

Having reached its lowest level in January 1895, the exchange value of the rupee began to rise, and in the latter part of 1897 it nearly touched 16*d* The years 1895 to 1898 were a period of the appreciation of the rupee in terms of gold The exchange value of the rupee was now completely divorced from its bullion value and fluctuated independently of the price of silver

In August 1897 the Government of India were asked by the Secretary of State whether they were in favour of re-opening the Indian mints to silver if France and the United States of America opened their mints to silver as well as gold The Government of India saw no very good reasons for adopting the course suggested They pointed out that the return to silver monometallism would cause an intense disturbance of trade, and in case the experiment failed, the whole cost of failure would have to be paid by India alone Further, international bimetallism could not succeed without the co-operation of the United Kingdom, and since the United Kingdom was not prepared to change her monetary standard, the best possible course for India was to link her currency system with that of the United Kingdom, the country with which her trade and financial connections were most intimate The Government of India finally declined to give the undertaking desired by France and the United States In view of the fact that their currency policy had succeeded in arresting the fall in exchange, their objection to re-opening the mints to the coinage of silver, which meant a reversal of their policy, was well-founded

CHAPTER XI.

INDIAN CURRENCY, 1898-1914.

On 3rd March, 1898, the Government of India sent a communication to the Secretary of State urging the establishment of a gold standard in India The time had arrived, they said, to put an end to the uncertainty and fluctuations of exchange This communication led to the appointment of the Fowler Committee. At the time when the Despatch of 3rd March was written the exchange value of the rupee was still somewhat less than 16*d.* The Government of India proposed to raise exchange by reducing the volume of the silver circulation and replacing the silver withdrawn from the circulation by gold. The circulation was to be reduced by melting down rupees *

The Fowler Committee rejected the proposal to melt rupees, but before the Committee made its report the rupee had risen to 16*d.*, and the Government of India themselves, in the altered circumstances, would not have

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*"The mere reduction of circulation might be carried out in the same way in which it was effected in 1893, namely by abstaining from drawing Council bills, until we have an accumulation of, say, twenty crores in excess of our ordinary balances But this procedure would be both costly and, as we believe, ineffective, in the first place, the permanent locking up of twenty crores of rupees would cost us in the interest on that amount, or on the amount of gold borrowed in England during the suspension of drawings, and in the second place, the existence of this accumulation of silver coins would be a perpetual menace to the exchange market, and would entirely prevent any confidence in the future of the rupee We must not only withdraw the amount from circulation, but we must show by the method we adopt that our intention is that it should cease to exist in the form of coin, and that its place as coin is to be taken by gold Our proposal is therefore to melt down existing rupees, having first provided a reserve of gold both for the practical purpose of taking the place of the silver, and in order to establish confidence in the issue of our measures" (*East India Currency*, c. 8840, p. 6)

recommended that measure. The main recommendations of the Fowler Committee were that the sovereign and the half-sovereign should be declared legal tender throughout India at 15 rupees per sovereign, and that a gold standard with its "normal accompaniment," a gold currency, should be established in India. The Committee also recommended that "fresh rupees should not be coined until the proportion of gold in the currency is found to exceed the requirements of the public," and that 'any profit on the coinage of rupees should be kept in gold as a special reserve, entirely apart from the Paper Currency Reserve and the ordinary Treasury balances "

The reserve was to be used for maintaining the exchange value of the rupee

The Lindsay scheme for the introduction of a gold standard without a gold currency was rejected by the Fowler Committee

The Government of India accepted the recommendations of the Committee The sovereign was declared legal tender, the Gold Standard Reserve was instituted, and active steps were taken to encourage the use of gold as currency Arrangements were also made for the coinage of gold in India, but the scheme was dropped when it was nearly complete in 1902 The results of encouraging the use of sovereigns as a medium of circulation were, however, considered to be unsatisfactory, and the Government of India resumed the coinage of rupees on a considerable scale in 1900.

The Gold Exchange Standard.

Though the Government of India fully intended to carry out the recommendations of the Fowler Committee, the Indian currency system did not develop along the lines recommended by that Committee. The main features of our pre-War currency system were essentially those of Mr. Lindsay's scheme.

The central idea of the gold exchange system is that gold is not required for internal circulation but for the payment of international indebtedness For maintaining exchange it is, therefore, sufficient if the national currency is convertible into gold at a constant rate for meeting sterling obligations abroad When Council bills were sold in London, gold was deposited in the reserves kept there and rupees were issued in India The circulation contracted when bills were sold in India to meet an unfavourable balance of trade The Gold Standard Reserve, (Mr Lindsay's "Gold Conversion Fund") was kept in London, as gold is required for the settlement of the balance of India's foreign indebtedness, and London is an important centre for the settlement of international indebtedness

These are the main features of Mr Lindsay's scheme Several objections were raised against the scheme The Government of India in their Despatch of 3rd March 1898, gave as one of their main reasons for deciding not to adopt the scheme, that it would involve them " in a liability to pay out gold in London in exchange for rupees received in India to an indefinite extent "* Mr. Lindsay's reply to the objection was that Government would be involving themselves in a greater liability by undertaking to give gold in India A second objection to the scheme was that the location of the Gold Standard Reserve in London would excite distrust and suspicion. "A gold reserve," said Sir James Westland in his memorandum on the scheme, "intended to support the introduction and maintenance of a gold standard in any country ought to be kept in the country if it is to produce its full effect in the way of establishing the confidence which is almost indispensable to the success of the measure."† Mr. Lindsay, however, thought that the foreign capitalist would have greater confidence if the reserve was kept in London. "It is only people who send out capital to India that are concerned in this matter, the people who work with local capital in India will be very much in the same position as they are at present .The token rupees are all they want"*

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* *Para 28 of the Despatch.*

† *East India Currency, c. 8840, p 18*

The chief difference between Mr. Lindsay's plan and the measures proposed by the Government of India was that the former provided for the contraction and expansion of the currency by the withdrawal of rupees from, and the issue of rupees into circulation, while the latter recommended the adoption of the principle of free in-flow and out-flow of gold If there was no fresh coinage of rupees, the demand for additional currency caused by the growth of trade would be met by the issue of gold coins, if at another time the currency became redundant, the excess would be got rid of by the exportation of gold Mr Lindsay's plan, it was also pointed out, invested the Government with some degree of control over the volume of the rupee currency, for new rupees were to be coined from bullion bought at the discretion of the Government. "This is not a feature of the plan," wrote Sir James Westland, "that can commend itself in principle, for the regulation of the sole full legal tender currency of a country should be entirely automatic and not in any degree dependent upon the discretion of the Administration "†

The chief matters of interest in our currency history in the first decade of the 20th century are the investment of the Gold Standard Reserve in securities in London, the formation in India in 1906 of a rupee reserve as part of the Gold Standard Reserve, the diversion in 1907 of profits on the coinage of rupees for capital expenditure on railways; and the sale of sterling drafts by the Government of India in the exchange crisis of 1907-08

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* *Evidence before the Fowler Committee, Q. 4057.*

† *East India Currency c.8840, p. 20*

In 1905, and again in 1906, some difficulty was felt in meeting the demand for rupees in India, and this led to the formation of a special rupee reserve which could be utilised for preventing exchange from rising above 1*s* 4*d* At first the reserve was held inside the Paper Currency Reserve in the form of silver ingots and then in partly coined rupees, but in 1906 it was decided to hold it in the form of coined rupees only But as the reserve was needed for preventing the rupee from rising to a premium over 1*s* 4*d*, its name was changed to the Gold Standard Reserve, which now consisted of two portions, one held in the form of sterling securities in London, and the other in rupees in India The rupee branch, like the sterling branch of the Reserve, consisted of the profits on the coinage of rupees

It 1907 a Railway Committee appointed by the Secretary of State recommeneded that £1,000,000 out of the profits on the coinage of rupees in 1907 should be devoted to improvements for Indian railways The Secretary of State went further than the Committee and decided that for the future one-half of any profits on the coinage of rupees should be used for capital expenditure on railways until the Gold Standard Reserve reached £20,000,000 It was intended that after that total had been reached, the whole of the profits on silver coinage should be diverted from the Reserve The Government of India, however, thought that the sterling portion of the Reserve should be allowed to accumulate to £ 20,000,000 before any sums were diverted from it. In reply to a communication from the Government of India on the subject the Secretary of State said, "The danger which you allege of a fall in exchange I regard as illusory, having regard to the present conditions of trade, the amount of securities in the Gold Standard Reserve and of gold in the Currency Reserve"[†] He adhered to his decision and used £1,123,000 of the profits of coinage for railway capital expenditure.

But the danger of a fall in exchange was not illusory A severe financial crisis in America in the autumn of 1907 and the consequent monetary stringency in the money markets of the world, combined with the failure of the summer monsoon in India in 1907, caused Indian exchange to fall suddenly in November. The Exchange Banks asked Government to sell telegraphic transfers on London at 1*s* 4*d* per rupee, but the Government, after consulting the Secretary of State, refused The Government also refused to give gold for export from the Paper Currency Reserve in larger quantities than £ 10,000 to any one individual in one day. The exchange continued to fall and on November 23 it fell to 1*s* 3$\frac{7}{32}$*d* Indian importers began to buy British Postal Orders for £10,000 and other large sums as a means of making sterling payments, and then at the instance of the Secretary of State the Government of India began to give gold for export The Government also informed the Exchange Banks on 27th December that, should it become necessary, they would offer for tender in India sterling exchange on London. On 26th March 1908 sterling bills were first sold in India, and they continued to be sold till 11th September 1908 In all £8,058,000 was withdrawn during this period from the Gold Standard Reserve to meet the bills

The crisis of 1907-08 showed that strong gold reserves were essential for the maintenance of exchange.

[†] *Report of the Chamberlain Commission, para 36*

During the crisis £4,179,000 was withdrawn by the public from the Paper Currency Reserve, while only £250,000 was exported on private account Another lesson taught by the crisis was "the desirability of formulating in advance and giving publicity to the policy which it is intended to pursue in a crisis" "It is almost as important," wrote the Chamberlain Commission, "that the general public should have confidence in the determination of the Government effectively to use their resources to maintain the rupee at 1s. 4*d* as it is that the Government should have the necessary resources for so doing."†

The Chamberlain Commission.

The Chamberlain Commission was appointed in April 1913 to consider, among other matters, "the measures taken by the Indian Government and the Secretary of State for India in Council to maintain the exchange value of the rupee in pursuance of, or supplementary to the recommendations of the Indian Currency Committeee of 1898, more particularly with regard to the location, disposition and employment of the Gold Standard and Paper Currency Reserves" The Commission approved of the measures adopted by the Government in order to maintain the exchange value of the rupee, though these measures were "less in pursuance of the recommendations of the Committee of 1898 than supplementary to them" This is shown by the fact that the Government abandoned the attempt to encourage the use of sovereigns in India, and kept the Gold Standard Reserve in London for the support of exchange The Commission was not in favour of introducing a gold circulation in India "The establishment of the gold value of the rupee on a stable basis," they wrote, "has been and is of the first importance to India,"† gold in actual circulation is of little use for the support of exchange Further, they tried to show that the attempt to encourage the circulation of gold would necessarily weaken the gold reserves of the Government, and thus make it difficult for Government to maintain exchange in a time of crisis To the objection that without gold in active circulation India's currency system would remain a "managed" system, their reply was that there was no "essential difference between the power to import sovereigns at will and the power to have gold coined into sovereigns in India" They finally concluded that "It would not be to India's advantage to encourage the increased use of gold in the internal circulation" In paragraph 76 of their report, the Commission said —

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† *Para 52 of the Report of the Chamberlain Commission*

"To sum up, our view is that India neither demands nor requires gold coins to any considerable extent for purposes of circulation (as opposed to saving or hoarding), that the most generally suitable media of internal circulation in India are at present rupees and notes, and that the Government should, as opportunity may offer, encourage notes, while providing—and this is the cardinal feature of the whole system—absolute security for the convertibility into sterling of so much of the internal currency as may at any moment be required for the settlement of India's external obligations"

As regards the Gold Standard Reserve the Commission did not fix any limit up to which the Reserve, should be accumulated They recommended that the profits on the coinage of rupees should, for the present, continue to be credited exclusively to the Reserve, and that Government should aim at keeping one-half of the total Reserve in actual gold. The rupee branch of the

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†*Para 76 of the Report*

Reserve they considered to be "responsible for much confusion and doubt as to the efficiency of the Reserve" and they recommended its abolition They did not consider it necessary that the use of the Reserve should be regulated by statute "But we advise," they said, "that the Government should make a public notification of their intention to sell bills in India on London at the rate of 1s 3$\frac{29}{32}$*d* whenever they are asked to do so (as was actually done in 1908 and confirmed in 1909), to the full extent of their resources We believe that the knowledge that such exchange can be purchased at any time will do much by itself to inspire confidence, and so to reduce the actual demand for drafts on London, and to prevent that feeling of panic which is liable to accompany and to aggravate periods of financial strain. With the Reserve for the support of exchange so strong as it will, we hope, prove, if our recommendations are accepted, we do not think that there is any reason to fear that in undertaking this liability the Government of India would be in any danger of being unable to carry out their obligation"

Only partial action could be taken by the Government on the Report of the Chamberlain Commission, as the War broke out shortly after the publication of the Report in 1914 Government issued a notification in 1914 guaranteeing to issue sterling drafts on the Secretary of State in London The silver branch of the Gold Standard Reserve was also abolished in 1914 by the transfer of 6 crores of rupees held in the silver branch to the Paper Currency Reserve for an equivalent amount of gold

CHAPTER XII.

INDIAN CURRENCY 1914—1920.

Having learnt in the crisis of 1907-08 how to use their gold reserves for the support of exchange, Government were fully prepared to meet the weakening of exchange which was the immediate result of the outbreak of war. Between 6th August, 1914 and 28th January, 1915, Reverse bills were sold to the extent of £8,707,000 Reverse bills were again sold in 1915-16 (£4,893,000) and between November 1918 and April 1919 (£5,465,000). Apart from these temporary periods of weakness exchange was strong throughout the War As a matter of fact, our currency troubles during the greater part of the War were due, not to a falling rupee, but to a rupee whose exchange value rose to unexpected and unprecedented heights Before we discuss the causes of the abnormal rise in the rupee which commenced in 1917, however, it seems desirable to explain briefly the operation of the gold exchange system in India before the War.

A gold exchange system is an artificial system in the sense that the rate of exchange under this system does not depend upon the intrinsic value of the silver coin Before 1893, every fall in the price of silver reduced the exchange value of the rupee, but during the whole period between 1899 and 1916, the fluctuations in the price of silver exercised no influence upon the course of the rupee exchange. Exchange rose and fell according to the supply of, and the demand for, foreign bills. The exchange value of our rupee was thus completely divorced from its bullion value.

But it should not be supposed that as soon as a country has conferred an artificial gold value upon its silver coin, the market price of silver becomes a matter of indifference. Violent fluctuations in the price of silver in either direction would destroy the system, or make it impossible to work. The essential feature of a gold exchange system is the use, for purposes of internal circulation, of a token coin which is convertible into gold for foreign remittances at a more or less constant rate When a token coin ceases to be a token coin, on account of the rise in the value of its metallic content, the gold exchange system automatically ceases to exist It thus appears that the existence of the gold exchange system and its successful operation depend upon steadiness in the value of silver For the purposes of the gold exchange system it is comparatively a matter of indifference whether the ratio of silver to gold is high or low, but it is not a matter of indifference whether the ratio is steady or subject to frequent and violent changes. This aspect of the question was duly considered by the American Commission on International Exchange of 1903 In the arguments submitted by the American Commission to the foreign Commissions there was a whole section devoted to "Considerations regarding the price of silver." "Whether the absolute price of bar silver be high or low," wrote the American Commission, "is a matter of comparatively slight importance, in as much as the ratio could be fixed to correspond, provided the price remains steady but if after a ratio had been once fixed, the price were to increase decidedly (so that bullion value of coins exceeded their nominal value) the coins would be melted down and the system would be destroyed. On the other hand, if the price of silver were to fall very low, the burden of maintaining the parity would be heavier, in as much as a larger gold reserve fund might be required to maintain confidence. It is extremely desirable, therefore, especially for the countries that are somewhat weak financially, that the price of silver bullion should remain steady at a point somewhat near the ratio agreed upon."*

In India attention has been concentrated on devising means for preventing the rupee from falling below a certain level. The possibility of a rise in the rupee much above its gold parity was never seriously considered by Government or any one else. This is certainly curious in view of the fact that the rise in the price of silver in 1906-07 caused the gold exchange system of several countries to collapse, though it did not affect us. The gold exchange system was introduced into the Philippines in 1903. The unit of value was the silver peso, 416 grains in weight. The margin between the bullion value and the money value of the peso, at the average price of silver for February (1903) was about 32.4 per cent which, says Kemmerer,† "to most people seemed to be a generous margin of safety." But in less than four years the gold exchange system completely broke down owing to the rise in the price of silver. The monetary situation was reconsidered by the Philippines Government and the Government of the United States, and after many months of deliberation it was decided to reduce the weight and the fineness of the peso, thus reducing the fine silver content of the peso by 34 per cent and changing the ratio with gold from 32.5 to 1 to 21.3 to 1. "With this new ratio," wrote Kemmerer, "the new peso cannot be in danger of the melting pot until silver reaches approximately 45⅜*d*.", and he thought that the peso was well protected by the large silver circulation of India and Japan. Thus Kemmerer wrote in October 1916. In less than a year, however, silver rose to 55*d* throwing into confusion the currencies of India, the Philippines, the Straits Settlements and other Eastern countries

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* *Stability of International Exchange, Washington, 1903, p. 124.*

† *Modern Currency Reforms, p. 349.*

The rise in the price of silver in September 1917 to 55*d* put an end to our gold exchange system The rupee ceased to be a token coin—there was profit in melting and exporting it As the price of silver continued to rise, the maintenance of the old ratio, 16*d.* to the rupee, became impossible The rise in the cost of production of the rupee compelled the Secretary of State to raise the price of rupees The minimum rate for Immediate Telegraphic Transfers, which on 28th August 1917 had been fixed at 1*s* 5*d*, was raised to 1*s* 6*d* on 12th April 1918, 1*s* 8*d.* on 13th May 1919, 1*s* 10*d.* on 12th August, 2*s* on 15th September, 2*s* 2*d.* on 22nd November and 2*s* 4*d* on 12th December 1919.

A contributory cause of the rise in exchange was the strong demand for rupees due to the heavy balances of trade in India's favour But even without the assistance of the favourable balances of trade the rise in the price of silver was sufficient to destroy our system If the rise had occurred, not during the War but before the War, the collapse of the gold exchange system would have been as complete as it was during the war It should be recognised that the collapse of the gold exchange system was due, not so much to war causes, as to the simple fact that the price of silver rose above the bullion par of the rupee

When the price of silver rises so that the intrinsic value of the token coins exceeds the face value, the gold exchange system can be re-established either by raising the gold par or by debasing the token coins The majority report of the Babington Smith Committee, appointed by the Secretary of State in May 1919 to consider the Indian currency situation, recommended the raising of the exchange value of the rupee to 2*s*. (gold). The chief objection to the reduction in the weight or fineness of the rupee was that it would "react gravely on the credit of the

Government and possibly lead to serious social and economic consequences" * The 2*s* rate was chosen as the Committee believed that if the exchange value of the rupee was fixed at a figure lower than this, the rupee could not be established as a token coin The price of silver throughout 1919 was high and in February 1920 it reached the high water-mark of 89½*d*, and it seemed probable that for many years to come it would remain at a high level Re-coinage being impossible, a stable gold exchange standard could be ensured only by raising exchange, and raising it enough to make the rupee safe from the melting pot

Indian press comment on the recommendations of the majority report of the Babington Smith Committee was unfavourable The effect of a high exchange in stimulating imports was one of the chief grounds of objection to raising the exchange value of the rupee. A great revival of Indian industries took place during the War, of which Mr Ainscough, British Trade Commissioner in India and Ceylon, gives an admirable account in his *Report on the Conditions and Prospects of British Trade in India at the Close of the War* The War brought into existence many new industries and proved a blessing in disguise to old industries In the cotton industry, for example, Indian mill competition both in spinning and weaving was becoming more serious "In all branches of the trade," wrote Mr Ainscough, "greater vigilance and improved distributing organisation will be necessary and our makers and shippers will have to fight for the business in a way they have never been obliged to do before "† In so far as a high exchange encouraged imports, it would favour the British manufacturer at the expense of his Indian rival. "High exchange," said Mr

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* *Para 38 of the Report*

† P 21.

Ainscough, "places the British manufacturer in a more favourable condition *vis-a-vis* his competitor in India. On the whole, therefore, his material interests would appear to be best served by the fixation of exchange at as high a rate as may be possible under the circumstances "*

The report of the Indian Currency Committee was well-received by the British press, as may be judged from the following extract from an acticle on "Trade and the New Rupee Basis" in the *Times Trade Supplement* of February 7, 1920

"Apart from the possibilities of international action, the hope of arresting sterling depreciation lies in increasing production in the United Kingdom, with consequent large shipments abroad, so that our former position as a creditor country may be ultimately restored The immediate effect of the new sterling rate of rupee exchange should be that of stimulating our exports to India, while restricting our purchases therefrom The report of the Committee referred to in detail elsewhere naturally avoids laying great stress on the point, but it is one which appeals to our manufacturers, as is shown by the favourable opinions with which the recommendations have been received in the industrial North "

The Government accepted the recommendations of the majority report of the Babington Smith Committee The attempt, however, to maintain exchange at 2s. (gold) did not succeed.

The history of our exchange during 1920 may be divided into three periods —

(*a*) From the adoption of the report of the Babington Smith Committee in February to June 24 when Government lowered the rate to 1*s* $11\frac{19}{32}$*d.* for Telegraphic Transfers and 1*s.* $11\frac{13}{16}$*d* for Deferreds.

(*b*) From June 24 to September 28 when Government withdrew the sale of Reverse bills

(*c*) The period of uncontrolled or free exchange after September 28.

(*a*) The adoption of the report of the Babington Smith Committee raised the rate of exchange from 2*s* 4*d* to 2*s* $10\frac{1}{2}$*d* In order to maintain the 2*s* (gold) rate, it was decided to fix the rates for Reverse Councils in accordance with the ratio of Rs 10 to the sovereign, making allowance for the depreciation of sterling on the basis of the latest rate for the dollar sterling exchange Immediate Telegraphic Transfers were sold on 5th February at 2*s* $8\frac{15}{16}$*d* , at the following sale the rate was raised to 2*s* $10\frac{27}{32}$*d* As the Government rate was higher than the market rate the amounts offered at these and subsequent sales were largely over-subscribed The Comptroller of Currency in his report for 1919-20 says —

> " When at the commencement of February the rate for Reverse Councils went to 2*s* $8\frac{15}{16}$*d* the market rate for Telegraphic Transfers on London was quoted at 2*s* $7\frac{3}{4}$*d* At these rates an overwhelming demand for sterling remittance arose and the Reverse Councils sold were insufficient to bridge the gap between the demand for sterling remittance and the demand for remittance to India "

On February 19, £2,000,000 was offered at a difference of about 3*d*, over the market rate , the applications were for no less than £122,333,000 In March the difference between the Bank rate for Telegraphic Transfers and the official rate was about $1\frac{1}{2}$*d* and applications fell off to £56,295,000 The difference fell to about one penny in April, but by the middle of May it had increased to $4\frac{13}{32}$*d.* and applications were again received for more than £122,000,000 At the sale on 15th June, for a third time, while £1,000,000 was offered, tenders were received for upwards of £122,000,000, the difference between the Government rate and market rate being more than 7*d*

Having regard to the fall in the market rate for sterling Government, as stated above, lowered the rates to 1*s*. $11\frac{19}{32}d$ for Telegraphic Transfers, and 1*s*. $11\frac{18}{18}d$. for Deferreds, on June 24 They frankly abandoned the attempt to maintain exchange at 2*s* (gold), considering it hopeless. According to the Currency Committee the rate for Immediate Telegraphic Transfers on London was to be based on the sterling equivalent of 11 33016 grains of fine gold as measured by the prevailing dollar-sterling exchange The equivalent was 2*s*. 5*d* per rupee, while the new Government rate was 1*s* $11\frac{19}{32}d$

(*b*) The weekly offer of sterling drafts on London continued till the end of September, when the Government withdrew the offer, not without "reserving to themselves the right of resuming these sales should circumstances, in their opinion, at any time subsequently render resumption expedient."

Thus ended the attempt of the Government to stabilise exchange in accordance with the recommendations of the Babington Smith Committee

From January to September 1920 Reverse bills to an amount of £55,000,000 were sold, which figure constitutes a record in the annals of our finance The bills were sold at rates which very often were "absurdly cheap compared with the market value" (*The Times*, London) "The favoured allotments of the bills," in the words of the Indian trade correspondent of the *Manchester Guardian Commercial* "became a very grave scandal."

(*c*) Exchange fell rapidly in October (1920) The situation was tersely summarised by a Calcutta merchant who, when questioned by a correspondent of an English financial paper, said that there was no exchange. To support exchange Government raised the embargo on the export of wheat from October 1920 till March 1921. A total export of 400,000 tons was allowed. There was, in 1919-20, as compared with 1918-19, an increase of 26 per cent. in the area under wheat, and of no less than 34 per cent. in the yield, which was estimated at 10,092,000 tons The wheat exports, however, did not exercise any perceptible influence on exchange On 28th December, 1920, the rate for Telegraphic Transfers was 1*s*. 5*d* per rupee, and it continued to fall until on March 9, 1921, only 15*d* could be purchased with a rupee Then it rose a little, but throughout the remaining eight months, till the end of the year, it remained a little below 1*s*. 4*d* sterling (about 13*d* gold).

The entirely unexpected fall in exchange involved our importers in serious losses and many of them refused to meet their obligations. What a fall in exchange means to importers may be shown by an example. At 2*s* goods of the value of £1,000 are worth Rs. 10,000. When exchange falls to 1*s* 4*d*, Rs. 15,000 must be paid to take delivery of the same goods—a loss of Rs. 5,000. It is not surprising that many importers tried to back out of their contracts Faced with bankruptcy, they cancelled the purchases they had made.

The action of our importers in refusing to meet their obligations cannot be defended, but in many cases such refusal was due to real inability to pay. It should also be remembered that Government had accepted the recommendations of the Babington Smith Committee, and attempted to stabilise exchange, as we have seen, first at 2*s* gold, and then at 2*s* sterling In these circumstances it was natural for people to think that exchange would not fall below 2*s*. sterling, and when exchange fell below that rate they thought Government was to blame for it The following is the text of the Resolution passed by the Indian Piece-goods Merchants' Association of Bombay regarding payment for imported piece-goods :—

"In view of the Government officers' frequent assurances as to the rate of exchange, and the passing of the law in the Supreme Legislative Council fixing the rate at 2*s* per rupee, and also that the rate of the sovereign has been fixed at Rs 10 each from a certain date, and in view of the extraordinary, low rate thereof at present ruling, and the consequent enormous loss the importing merchants are put to, it is hereby resolved that the payment of piece-goods that may have already arrived be postponed till the exchange rate reaches 2*s* per rupee, but payment be made to those firms and banks who allow that rate"

It cannot be denied that the action taken by the Government in regard to exchange in 1920 misled the people Government can certainly claim that it was not responsible for the fall in exchange But it acted with undue haste it proceeded to stabilise exchange at a time when everything else was unstable

The fall in the rupee was accompanied by a fall in the price of silver, and there was a close connection between the two movements The year 1920 will rank as one of the most eventful years in the history of silver and of the rupee. As we have seen, it saw the rise of the rupee to the highest level ever recorded during the last 75 years, and an equally sensational fall The price of silver also varied between very wide limits in 1920, 89½*d.* in February and 38⅞*d* in December. The price of silver exercised an important influence, not only on the rupee but on the currencies of other Eastern countries. For example, the highest quotation for the Hongkong Dollar in London in February 1920, was 6*s.* 2*d.* and the lowest in December, 2*s.* 11*d.*; similarly for the Shanghai Tael, the highest quotation in 1920 was 9*s.* 3*d.* and the lowest 3*s.* 10½*d.* The rise in the price of silver re-established the connection between the exchange value and the bullion value of the rupee which had existed before 1893, and when the price of silver fell, the exchange value of the rupee fell with it. The fall in silver is attributed to the cessation of the Chinese demand, the absence of purchases by the Indian Government and the absence of buying by the European mints During 1920 France and her partners in the Latin Monetary Union melted down and sold practically the whole of their silver currency A certain section of the British press held France responsible for breaking the Eastern exchanges.

The accompanying Chart shows the exchange value and the bullion value of the rupee from 1873 to 1927. It will be seen that the fall in exchange from 1873 to 1895 was in consequence of the fall in the bullion value of the rupee From 1895 to 1898 exchange rose, and from 1898 to 1915 it remained stable at 16*d* During the whole of this period the price of silver exercised no influence on the movements of exchange. But the connection between exchange and the bullion value of the rupee was re-established during the War when the price of silver began to rise rapidly The two curves move in the same direction in the years 1915—1922, then they again separate

Exchange and Price of Silver, 1873—1927

	Exchange d per Re	Silver d per oz	Bullion value of the Re d
1873	22 88	59 25	22 02
4	22 88	58 31	21 67
5	21 75	56 88	21 14
6	20 56	52 75	19 61
7	21 38	54 81	20 37
8	20 56	52 56	19 53
9	19 94	51 25	19 04
1880	20 03	52 25	19 42
1	19·75	51 69	19 26
2	20 33	51 63	19 19
3	19 83	50 56	18 79
4	19 81	50 63	18 14
5	18·83	48 63	18 07
6	17 94	45 38	16 86
7	17 28	44 63	16 58
8	16 53	42 88	15 93
9	16 63	42 69	15 86
1890	18 53	47 69	17 72
1	17 22	45 06	16 74
2	15 25	39 81	14 79
3	15 08	35 31	13 12
4	13 5	28 94	10 75
5	13 34	29 88	11 10
6	14 44	30 75	11 43
7	15 28	27 56	10 24
8	16	26 94	10 01
9	16 11	27 44	10 2
1900	16 09	28 25	10 5
1	16 07	27 19	10 1
2	16 06	24 06	8 94
3	16 13	24 75	9 2
4	16 15	26 38	9 8
5	16 15	27 81	10 33
6	16 31	30 88	11 46
7	16 34	30 19	11 22
8	16 16	24 38	9 06
9	16 38	23 69	8 8
1910	16 31	24 63	9 15
1	16 31	24 56	9 13
2	16 34	28 03	10·42
3	16 38	27 56	10 24

	Exchange *d.* per Re	Silver *d* per oz	Bullion value of the Re *d.*
4	16 38	25 31	9 41
5	16 31	23 69	8 8
6	16 50	31 31	11 63
7	17 06	40 88	15 19
8	18 25	47 56	17 67
9	22 09	57 06	21 2
1920	24 63	61 44	22 83
1	16 63	36 88	13 7
2	15 85	34 44	12 8
3	16 38	31 94	11 87
4	17 63	34	12 63
5	18 44	32 13	11 94
6	18 25	28 69	10 66
7	18 13	26 03	9 67

Notes —Exchange on London at four months' sight, from 1873 to 1884 at six months' sight Yearly average Price of silver in London per standard oz Yearly average

(Source Statistical Abstract for British India)

The rupee contains 180 grains of silver 11/12 fine, or 165 grains of fine silver When the price of silver in London is 43 *d* per oz the value of the metallic content of the rupee is 15 979 *d* (making no allowance for cost of reduction to bullion)

CHAPTER XIII

THE GOLD BULLION STANDARD.

We have seen that the attempt to stabilise exchange at 2*s*. failed in 1920 Soon after the publication of the Report of the Babington-Smith Committee economic conditions began to change so rapidly as to make the proposals of the Committee regarding exchange stabilisation impracticable. There was in the first place, as we have seen, a rapid and unexpected fall in the price of silver, and in the second place, the beginning of a heavy fall in commodity prices all over the world

The rate of exchange for Calcutta Telegraphic Transfers on London (average of daily rates) was 2*s* $0\frac{3}{32}$ *d* in 1920, it fell to 1*s* 4 $\frac{1}{32}$ *d* in 1921 and 1*s*. $3\frac{19}{32}$ in 1922. Exchange gradually rose after July 1922. The average of daily rates for each month of the year 1922 was less than 1*s* 4*d* , but in 1923 it never fell below that level, and in December 1923 it exceeded 1*s*. 5*d* The average rate was 1*s* $4\frac{3}{32}$*d* for the whole year 1923 , 1*s* $5\frac{1}{4}$*d* for 1924 and 1*s* 6*d* for the first nine months (January to September) of 1925 In August 1925 a Commission, with Mr Hilton-Young as President, was appointed to examine and report on the Indian exchange and currency system and practice. This was the second Royal Commission, as the Babington-Smith Committee was the third Committee, which, since 1892, was called upon to make proposals regarding Indian currency reform*

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* *Currency Committee or Commission*		*Year of appointment*
1	Herschell Committee	1892
2	Fowler Committee	1898
3	Chamberlain Commission	1913
4.	Babington-Smith Committee	1919
5.	Hilton-Young Commission	1925

The report of the Hilton-Young Commission has been described as "epoch-making" It deserves our careful attention, as the proposals which it contains (to some of which effect has been given) are of fundamental importance to the Indian currency system

The Currency Commission recommended the adoption by India of the gold bullion standard The gold exchange standard was definitely condemned by the Commission as unsatisfactory We have the important admission that the gold exchange standard does not work automatically, and that it is not elastic. "The automatic working of the exchange standard," says the Report (para 16), "is thus not adequately provided for in India, *and never has been*" (italics mine) The Report refers to "the absence of contraction on occasions when the currency authority has had to sell sterling exchange" In 1920 the consequences of this were "disastrous" And the Report adds

> "There must ever be danger of such disaster under a system which does not automatically enforce contraction of internal currency concurrently with the depletion of Reserves"

These remarks would undoubtedly be read with interest by certain official apologists who, like Mr Findlay Shirras, regard the gold exchange system as an "improved gold standard," as "a system of money which has become and must become increasingly popular," and who are lost in admiration of "the beautiful elasticity of our currency system"*

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* *Indian Finance and Banking* 1920, p 37

"The Indian currency system of to-day is, however, quite as automatic as it was previous to the closing of the Mints to the free coinage of silver" (*Datta's Report on prices*, para 228)

The Chamberlain Commission of 1914 denied that the gold exchange system gave India "an artificial and managed currency" "It is not in fact possible for the Government of India," says the Report of the Chamberlain Commission (para 66), "to manipulate the currency, and they cannot add to the active circulation of the currency except in response to public demand"

The main recommendations of the Currency Commission may be briefly summarised as follows —

Under the gold bullion standard recommended by the Commission the currency will consist of silver rupees and notes, which will be directly convertible into gold The sovereign and the half-sovereign will cease to be legal tender, and gold will not circulate as money.

The control of currency and credit is to be entrusted to a new organisation, called the Reserve Bank The Bank will be given the sole right of note-issue for a period of (say) 25 years Not later than five years from the date of the Bank's charter becoming operative, Government notes will cease to be legal tender except at Government Treasuries.

An obligation will be imposed by statute on the Bank to buy and sell gold without limit at rates determined with reference to a fixed gold parity of the rupee (1s 6d) but in quantities of not less than 400 fine ounces (reduced to 250 tolas in the Reserve Bank Bill), no limit being imposed as to the purpose for which the gold is required

The paper currency will cease to be convertible by law into silver coin (para 69)

For a fuller summary of the recommendations the reader should see pages 86—88 of the Report. But the very brief summary given above fairly indicates the nature of the currency system which has been recommended for adoption

The proposed system differs from the old in several respects Firstly, we have the creation of a new organisation to control the credit and currency policy of the country. Under the old system the Government controlled the currency while the credit situation was controlled by the Imperial Bank. Secondly, the Paper Currency and Gold Standard Reserves are to be amalgamated.

Thirdly, and this is important, a statutory obligation is to be imposed on the Reserve Bank to buy and sell gold.

The chief feature of the gold bullion standard is the convertibility of token money directly into gold bullion for all purposes The Currency Commission attach great importance to it. Under the old system paper money was convertible by law only into silver rupees, which are themselves token coins By making notes convertible by law into gold bars for all purposes, we are told, "a more solid right of convertibility is attached to them than they have ever had since silver ceased to be a reliable standard of value" (para 69) Para 61 of the Report states

> "For the purposes of India this standard [gold bullion standard] fulfils the essential condition, that it should be not stable only, but simple and certain It provides the token currency with a right of convertibility that is intelligible to the uninstructed, and with a backing that is tangible and visible"

This recommendation of the Currency Commission has been misunderstood It has been thought that under the gold bullion standard token money will be freely convertible into gold, not merely for export, but for internal purposes. It was easy to make this mistake, for the "uninstructed" could not be expected to see the "tangible and visible" backing of the token currency, unless token money was freely convertible into gold for internal use.

In *theory* token money, under the gold bullion standard, will be convertible into gold for *all* purposes, in *practice* it will be convertible into gold only for export.

In para 64 of the Report it is explained that gold will not be sold by the currency authority cheaper than the market rate. The wholesale bullion market which exists now is not to be destroyed If the currency authority were compelled to sell gold at a price exactly corresponding to the par value of the rupee (*i.e*, cheaper than the market rate which includes the cost of import), the consequences will be serious.—

> "Apart from practically destroying the wholesale bullion market, the currency authority would inevitably become involved in the performance of a task which does not properly belong to it Its primary duty of maintaining the monetary unit at parity with gold would be made far more difficult "†

Now suppose that a large amount of gold was wanted for internal use and the gold reserves of the Bank began to disappear. To meet the loss of reserves owing to an internal drain the Bank would be forced to restrict credit This, says Schedule I, "would have highly injurious reactions on the internal economy of India, and should consequently be avoided" Therefore,

> "It is required so to frame the Bank's obligation to sell gold as to make it unprofitable for gold to be bought from it except in circumstances in which it would be profitable to do so for purely monetary purposes"

In a letter dated the 8th August, 1926, addressed to the Secretary, Government of India, Finance Department, the Secretary of the Indian Chamber of Commerce, Calcutta, thus commented on the proposed selling rates for gold

> "Turning to the obligation undertaken in Section 5 of the (Currency) Bill, that the Government shall sell gold at the rate of Rs 21 3 10 per tola, it is obvious that the Government do not intend to sell any gold to the public except when the exchange is above the gold point of 1s 6d. rate With such a position in the market the public are certain to sell to the Government rather than to buy from them" (para 3).

Why? The explanation is that the gold equivalent of the rupee is 1s 6d and at this rate the price in rupees of a tola of fine gold is Rs 21-3-10. When the rate of exchange is 1s $6\frac{3}{16}$d (upper gold point) or more, the equivalent in rupees of a tola of fine gold is less than Rs 21-3-10 The Bank's offer to sell gold at Rs 21-3-10 per tola will remain ineffective when the rate of exchange is at or above the upper gold point

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† Schedule I is even more explicit

"The reserves," it says, "exist to assure the maintenance at parity with gold of the purchasing power of the monetary unit, *i e*, to meet purely monetary needs It is evident that if they can be drawn upon in the ordinary course to satisfy non-monetary purposes to anything but a minor extent, the Bank's primary task, *viz* to maintain the external value of the currency, will be jeopardised."

When the exchange is below the upper gold point, the selling rate for gold will not be Rs 21-3-10 but more The Reserve Bank shall sell gold in that case for delivery at its office at Bombay at notified prices, and these prices will be so fixed as to free the Bank in normal circumstances from the task of supplying gold for non-monetary purposes

"The purely monetary purposes" referred to in Schedule I relate to gold for export, and not to gold given for hoarding or for making ornaments Gold bullion cannot be used for the purpose of circulation within the country, and it is used for monetary purposes only when it is sent abroad in settlement of foreign obligations

It is thought that even when the balance of trade is in India's favour (and consequently, the rate of exchange above 1s 6d) the currency may need to be contracted, and the Reserve Bank must sell gold to the public in order to reduce the volume of our token currency This is not how the Currency Commission have argued In para 115 of the Report they state

> "And if the exchanges are stable, and keep within the upper or lower gold points set by the fixation of the price at which the Reserve Bank undertakes to buy and sell gold, it will not be called upon either to buy or sell gold

The Reserve Bank will be called upon to sell gold only when, as the result of an adverse balance of trade, the exchanges turn against India

It should be clear that so far as the ordinary holder of rupees or notes is concerned, he would not be able to convert them into gold When he wants gold he must buy gold in the bazar, as at present

From the point of view of the general public, the gold backing of token money is not tangible and visible. The right of convertibility will not be intelligible to the "uninstructed."

It will be seen that from the point of view of convertibility there is no fundamental difference between the gold exchange system and the gold bullion standard of the Currency Commission The essential feature of both is that the internal currency consists of token money, which is convertible into gold for the payment of international indebtedness *

For the satisfactory working of the gold exchange system it is not essential that notes should be printed on silver When our paper money ceases to be convertible into silver rupees, we shall have what is regarded as the "ideal" currency system, that is, a currency system in which the internal currency consists of paper, convertible into gold for the settlement of foreign obligations Para 56 of the Report says --

> "It is argued by many who advocate the introduction of a gold currency, that a token currency of notes inconvertible for internal purpose is the ideal end towards which India should work The scheme outlined below carries India very far along the road towards that end "

So it does, and it takes us to end of the road and almost immediately, but it is forgotten that an overwhelming majority of the people of India are illiterate and incapable of appreciating the theoretic advantages of a token currency of notes inconvertible for internal purposes

A Memorandum † on a gold standard for India was

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* "In applying Ricardo's proposals to India," wrote Mr Lindsay, "little modification is necessary either of the proposals or of Indian currency arrangements The only change in the proposals will be the substitution of sterling money for gold bars, and rupees for paper money " (*Ricardo's Exchange Remedy* by A M L , p 8)

Dr Edwin Cannan, in his evidence before the Currency Commission, thus commented on the difference between the gold exchange system and the gold bullion standard

"I think when you get on to the bare bones of the gold exchange system there is very little difference between the two , some people say that this country [England] is on a gold exchange standard system now " Evidence Vol V P 162, Q 13,210

† *Appendix to the Currency Report*, *1925-26*, *II*, *43*.

submitted to the Commission by Mr H Denning, Controller of Currency The Memorandum represented the result of discussions between Sir Basil Blackett (Finance Member, Government of India). Mr McWatters (Secretary to the Government of India, Finance Department) and Mr Denning, but it was not put forward as an expression of the views of the Government of India

The main defects of the pre-war currency and exchange system, discussed in the Memorandum, were as follows —

(*a*) The currency system was liable to break down, as it actually did during the war, when the price of silver rose above the bullion par of the rupee

(*b*) The rupee was linked to sterling only, and the system ceased to be a gold exchange standard as soon as sterling depreciated

(*c*) The Government were under no statutory obligation to sell gold or gold exchange at a fixed rate at a time of exchange weakness

(*d*) When Reverse Councils were sold, Government could arrange by borrowing from the Gold Standard Reserve to meet sterling payments on account of the Reverse Councils without affecting the amount of currency in circulation The circulation, thus, was not automatically reduced, but such decrease depended on the action of Government This is shown by the following statement —

Years	Amount of Reverses sold £1000	Rupees received for Reverses sold Rs Lakhs	Amount of contraction effected Rs Lakhs
1907-8 9	8,058	12,16	12,16
1909-10	156	24	*Nil*
1914 15	8,707	13,16	1,05
1915-16	4,893	7,38	34
1918-19	5,315	7,08	*Nil*
1919 20 21	55,532	47,14	34,68

(*e*) The effective regulation of the money market was impossible as the currency and the banking reserves were controlled by different authorities, the former by the Government and the latter (in so far as it was controlled at all) by the Imperial Bank.

It is admitted in the Memorandum that defects (*b*) and (*c*) could be completely remedied even under the gold exchange standard by imposing a statutory obligation on the currency authority to buy and sell gold and gold exchange at fixed rates. As regards the other defects, while the management of the note-issue can be handed over to a Central Bank, so long as the rupee is the principal form of money and unlimited legal tender, a separate reserve must be maintained by Government to provide against a return of rupees from circulation. the entire system must also remain exposed to the danger of a rise in the price of silver. The two defects (*a*) and (*d*) can be remedied only by the adoption of the gold bullion standard (the existing system in Great Britain) or the gold standard with a gold currency in circulation. The Memorandum thus comments on these alternatives —

> " Undoubtedly the ideal to be aimed at is the system now in force in Great Britain, under which the note is the sole legal tender in circulation, and the gold value of sterling is established by the statutory obligation imposed on the Bank of England to buy and sell gold at rates corresponding roughly to the par of exchange. It is impossible, however, to hope that conditions in India will for generations be such that a full legal tender metallic currency will be no longer necessary. If therefore a gold currency is not introduced, defects in the Indian currency and exchange system must remain indefinitely. There is, moreover, reason to suppose that the introduction of a gold currency would hasten the attainment of the ideal system, as the fact that notes were convertible into gold and not merely into an overvalued silver coin would tend to increase confidence in the note issue and to decrease the demand for metallic currency. The conclusion is that the only way of remedying all the defects in the system within a reasonable period is by establishing a gold standard with a gold currency in circulation. "

The paragraph quoted above deserves to be read and re-read with attention It represents the views of the highest financial officers of the Government, possessing an intimate knowledge of Indian currency conditions, it also represents the views of the entire commercial community, and of others in India who are able to take an intelligent interest in such questions.

A practical scheme for the introduction of the gold currency standard by stages was outlined in the Memorandum The estimated amount of gold required for the purpose was £103 millions of this amount £15 millions was required at the time of the initiation of the first stage, a further £35 millions within a year, and the remainder over a period of ten years.

The scheme was rejected by the Currency Commission

There is nothing new in the arguments by which the Commission try to show that it is not in the interests of India to have a gold currency

The gold exchange standard was recommended for India by Mr Lindsay chiefly on the ground that under this system the demand for gold is reduced to a minimum On page 12 of his pamphlet entitled *Ricardo's Exchange Remedy* (1892), Mr Lindsay thus explains the advantages of the gold exchange system

"In this way a gold standard might be established in India without risk and considerable profit to the State and the Bank of England, and with advantage to the London money market. There would be no increase in the demand for gold, and little decrease, if any, in the demand for silver."*

The main object of the sale of Council Bills by the Secretary of State for India in excess of the Home Charges was to reduce the movement of gold from England to India*. Again in 1920, one of the reasons for fixing the exchange value of the rupee at 2*s* (gold) was to lesson India's demand for gold†.

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* Printed as in the original

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*Mr O T Barrow, who gave evidence before the Chamberlain Commission as the representative of the Government of India, frankly told the Commission that it was "desirable to check the excessive importation of gold into India" If gold was allowed to come to India, it would be used for currency or for hoarding In either case, said Mr Barrow, "if it went into the country and stayed there, it would mean a further drain of gold from England It must mean a further drain, whichever it is"

Another witness, Mr W B Hunter (of the Presidency Bank of Madras), who gave evidence before the same Commission, thus replied to Sir James Begbie's questions regarding the Council Bill system —

Q —You also favour the Council Bill system with the object of reducing the movement of gold coin from Europe to India?—This is so

Q —Your object is to prevent gold coin coming into India?—To prevent unnecessary gold coin being withdrawn from London at times of pressure, as I hold that a tight money market reacts on the Indian export trade

Q —Your object is to prevent disturbance of the London money market? - That is my chief object

Q You propose to achieve that by sale of bills in London to the extent that would be sufficient for that object? -Yes

Mr Lindsay before the Fowler Committee of 1898

Q —3593. Do you think this [gold currency for India] would, under the circumstances, lead to an injurious appreciation of the standard of value? —I think, myself, that the two uses of gold combined, for hoarding and for internal circulation, would be so enormous that it would create a serious disturbance in the London money market

† "The fear is thought to exist that under free conditions India's absorption of gold would diminish the chances open to other countries of obtaining gold to restore the value of their insufficiently backed paper issues The amount of gold going to India would depend on the extent to which silver purchases by the Indian Government displace private imports of gold as a means of balancing Indian trade, a higher price limit would secure a larger supply of silver, thus diminishing the gold taken by India It follows that the fear of undue gold absorption would, be, *pro tanto*, met by the proposal to fix a high rate of exchange, which is recommended below as a protection of the masses in India from the effect of high world prices arising out of the War The volume of the currency would still be automatic, but the limits of the Government's control over the proportions of its constituent elements as between silver and gold would be extended, *pro tanto*, by fixing a higher rather than a lower limit to the Government's buying price of silver" (*Memorandum submitted to the Indian Currency Committee of* 1920 *by Mr F H Lucas, Financial Secretary, India Office*)

Increased demand for gold on the part of India, the Hilton Young Commission thought, would make it more difficult for those countries of Europe which were "trying to climb back gradually to the gold standard or the gold exchange standard" to carry out currency reform (para 37). The proposal was veiwed with alarm in the United States of America Again, if India adopted a gold currency, the price of silver was likely to fall This would have offended the United States, "with its great and traditional interest in silver" (para 51), and injured China (para 49) Injury to China, particularly, was a serious matter, for "China is the greatest, and perhaps, the only great, undeveloped market left for the expansion of international trade" (para 50).

A whole section of the Report is devoted to "Effects on China" The whole of this section, with slight but significant changes, is a word for word reproduction of the statement regarding China made by Sir Charles Addis before the Commission. Sir Charles said " it [China] is the greatest, perhaps the only great undeveloped country left for the expansion of *British industry*"*

What Sir Charles Addis said about the effects on China, from the point of view of British industry, is perfectly intelligible When the Carrency Commission reproduced Sir Charles' statement in paras 49 and 50 of the Report, they should not have left out the reference to British industry The Chinese market is of considerable importance to Great Britain. It is comparatively of small importance to India In 1926-27, of our total exports, 4·7 per cent went to China (including Hongkong), and in 1927-28, 2·1 per cent. So far as exports of cotton and cotton goods are concerned, we have other markets which are of far greater importance than China.

The gold standard plan recommended in the Memoandum referred to above was rejected because it could not be successfully introduced without the co-operation of London and New York, which we could not secure. It is not surprising that American witnesses should have been opposed to an Indian credit which could be "interpreted as hostile, perhaps fatal to a great American industry."* The suggestion in the Report (para 53) that the attempt to change to gold would have upset the gold standard in the United States or in Europe, cannot be taken seriously Dr Sprague told the Commission that it was "entirely possible" to finance our plan in the United States, if otherwise there was no objection to it † Even if the Federal Reserve Banks had lent us the entire sum of £103 millions (500 million dollars) at once, the only serious effect would have been a fall in the reserve ratio of the Federal Reserve Banks from 70 per cent. to 60 per cent "They would," said Dr Sprague, "still be in a very comfortable position."

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* *Evidence Vol V, p 189, Q. 13,697.*

The "most solid argument" in favour of a gold currency

Reference has been made in a preceding Chapter to the Act of 1835 which permitted the coinage of gold, and to the Notifications of 1841, 1852 and 1864 regarding the receipt of sovereigns by the public treasuries The controversy regarding a gold currency was revived by the fall in the price of gold consequent upon the discovery of gold mines in Australia and California, and it was closed by the Resolution of the Governor-General in Council of 7th May 1874

The fall in the rate of exchange after 1873 led the Calcutta Trades Association and the Bengal Chamber of Commerce in 1876 to ask the Government to suspend the coinage of silver by the Indian mints The Government declined to interfere with the standard of value. Two years later, however, the Government changed their opinion and expressed their willingness to give "a certain limited scope" to the introduction and use of gold coins in India, "so far as it was found convenient or profitable." Their proposals were referred to a departmental Committee in England which made short work of them The Committee briefly reported that they were "unanimously of opinion that they cannot recommend them for the sanction of Her Majesty's Government"

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* Dr Hollander's evidence, V 279

† Evidence V 295, col 2 Dr Sprague is Professor of Banking and Finance, Harvard University Dr Sprague, Dr Hollander and Mr. B Strong, Governor of the Federal Reserve Bank, appeared before the Currency Commission in London

In 1892 we find the Government of India again advocating a gold standard for India The Herschell Committee, while not advising the Secretary of State to overrule the proposals of the Government of India for the closing of the mints and the adoption of a gold standard, suggested certain modifications of these proposals which were adopted by the Government The question of a gold standard was favourably considered by the Fowler Committee, but no sooner had their report been published than the British Treasury began to oppose their scheme tooth and nail. "For two years, from 1899 to 1901," says Mr Keynes, "they made a succession of technical difficulties in a spirit of scarcely veiled hostility to the whole proposal" In May 1901, however, some agreement was arrived at between the authorities in England and in India as regards the establishment of a gold mint at Bombay "At this point in the negotiations," says Mr Keynes, "the natural instincts of the Treasury Officials became uncontrollable and respect for independence of the India Office had to be abandoned Their first line of defence in the form of technical difficulties having been overcome, they fell back upon open argument as to the wisdom from the Indian point of view of the whole project."*

**Indian Currency and Finance 1924, pp 64-66.*

They urged that the gold standard had been firmly established in India, that sovereigns were readily attracted to India when required, that the estimates of the Government of India of gold available for coinage were less than was anticipated, and that the staff of the proposed Indian mint would have to be maintained in idleness for a large part of the year at considerable cost to the Indian exchequer "It is, of course, for Lord George Hamilton [the Secretary of State] to decide," said the Lords of the Treasury in conclusion, "whether in spite of these objections the scheme is to be proceeded with" The India Office informed the Treasury that His Lordship was not inclined to abandon the scheme The Treasury's reply was "My Lords cannot believe that the position of the gold standard in India will be strengthened, or public confidence in the intentions of the Government confirmed, by providing machinery for gold coins *which is neither demanded nor required by the mercantile community*, while, on the other hand, the failure or only partial success of a gold mint would undoubtedly be pointed to by the opponents of the gold standard policy (although without justification) as evidence of the break-down of that policy" (Italics mine)

In the end no gold mint was established in India But in accordance with the recommendations of the Fowler Committee the sovereign was declared legal tender in 1899 We shall now consider, briefly, how far this measure encouraged the use of gold as currency.

An attempt was made by Government in 1900 to introduce gold into circulation Payments of gold from the Currency Reserve commenced on 12th January, 1900, at the currency offices in Calcutta, Madras and Bombay, and towards the end of that month at the remaining currency offices "The instructions issued were to tender gold to all presenters of notes, but to give rupees if they were preferred" Later on sovereigns were sent to the larger District Treasuries with instructions that they should pay sovereigns to any one who might desire to receive them in exchange for rupees, or in payments due by the Government. In March 1900, the Post Offices in the Presidency towns and Rangoon were instructed to give gold in payment of Money Orders, and the three Presidency Banks were directed to issue sovereigns in making payments on Government account These arrangements continued in force throughout 1900-01, and it was estimated that about £6,750,000 was put into the hands of the people Of this amount part was exported, and more than half returned to Government, so that not more than £3,000,000 remained in the possession of the public Because a considerable amount of gold had returned to Government it was thought that the people did not want gold as currency and preferred rupees The Comptroller of Currency in his *Report on the Operations of the Currency Department for* 1899-1900,* said "The issues of sovereigns from currency offices under these orders were not inconsiderable, but the receipts continued large and considerably in excess of the issue Gold has apparently not yet begun to circulate in the country as money" But, probably, gold had begun to circulate as money. In the case of an agricultural community payment of Government dues is the chief item of expenditure. The return of gold to Government was not an indication of the desire of the agriculturists to get rid of the gold as fast as possible, it rather showed that the people were using gold as money should be, and is meant to be, used If the gold had remained in the possession of the people it would have been said that it had been hoarded

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***Annual Report (Superintendent Government Printing, Calcutta) See in each case Section dealing with gold circulation.**

The net absorption of sovereigns in 1901-02 amounted to £ 9 million. The increase in the popularity of the sovereign is shown by the increase in the amount of the absorption every year. The amount absorbed was £1 million in 1902-03, £2 millions in 1903-04, £2 2 millions in 1904-05, £2 7 millions in 1905-06 and £3·9 millions in 1906-07. "The absorption in the year under report," said the Comptroller of Currency in his report for 1906-07, "has so far been the highest on record, the United Provinces and the Punjab showing the largest demand " But the absorption in 1907-08 (£6 2 millions) was 59 per cent greater than that in the proceeding year "The absorption in the year under report," said the Comptroller of Currency in his report for 1907-08, "has been the highest on record, the most notable increases having occurred in the United Provinces, the Punjab, Burma, Madras and Calcutta " The absorption in the year 1908-09 was only £2 4 millions, but "It would have been higher than ever had gold been available throughout the year " The receipts at the currency offices from imports during the year amounted to £7,139000, but the gold was received only in the closing months of the year There were no receipts from April to October 1909 (both inclusive) In 1910-11 the total absorption amounted to £7,187000 as compared with £6,220,000 in 1907-08. As regards the popularity of the sovereign, the Comptroller of Currency in his report for 1910-11 acknowledged that "the apprehension that the sovereign would not be popular was not well-founded " But he pointed out that "the acceptance of the sovereign is not yet general," possibly due to the fact that they were not everywhere offered The Comptroller also doubted whether the sovereign had established itself as currency, though he recognised that "so far as it pays for produce and so far again as it comes back in payment of revenue, it acts as currency " His theory was that the acceptance by the cultivator of gold in payment of his crops was, probably, in the nature of barter In 1911-12, however, the absorption of gold in Northern India and Bombay necessitated special enquiries as to the exact use made of the gold The result of the enquiries was published in the Currency Report for 1911-12. The enquiries showed that a very considerable proportion of the gold absorbed in the Punjab was actually in circulation as currency , that, in some cases, better rates and terms could be obtained when gold was tendered in payment of produce than when silver was offered, gold thus being practically at a premium "The people preferred gold because it was less troublesome than silver money" The enquiries made in the Gujranwala District showed that all the grain agents paid the zamindars chiefly in gold and that the zamindars paid their revenue in gold "The zamindar prefers to have his price for the grain in gold as he can easily carry it and easily exchange it, and if necessary, put it away He shies at currency notes of any value as they cannot be easily exchanged, and to receive payment in silver means cost of carriage and a greater risk of being robbed" Gold was, in short, preferred because it is money of higher monetary utility than silver The enquiries made in Bombay showed that gold was not being hoarded or melted to the same extent as before, and that gold circulation was steadily increasing The enquiries made in the United Provinces, Madras and Burma showed similar results

The total absorption of sovereigns in 1912-13 (£10,245,000) was more than a third in excess of that in 1911-12 (£7,600,000). Special enquiries were again made as to the exact use to which the sovereigns were put, which confirmed the result of the enquiries made in the preceding year.*

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*Page 24 of the *Report on the Operations of the Currency Department for 1912-13.*

In 1913-14 the absorption of sovereigns amounted to £12,074,000 Special enquiries made in this year showed that in "certain parts of India, at any rate, sovereigns are used to an increasing extent in real currency transactions" The sovereign had "certainly displaced silver to some extent in Bombay and the United Provinces, and probably in a lesser degree in Madras and Burma also"* The general conclusion of the Comptroller of Currency was that "in large portions of India the sovereign is now entering largely into ordinary transactions in cases in which they are of sufficient size to make its use possible"

From the evidence quoted above it would appear that before the War there was a genuine demand for gold for currency purposes in India

Gold went out of circulation soon after the outbreak of the Great War, and there is no gold in circulation at the present time, but no one can deny that Indian public opinion is overwhelmingly in favour of a gold currency In the words of J M Keynes, this is, "the most solid argument"† in favour of a gold currency

It is curious that a foreign witness ‡ should have

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* Page 28 of the *Report for 1913 14*

† *Evidence Vol V P 160, Q 13,171*

‡ Keynes's evidence before the Currncy Commission

Q —13,172 Frankly my opinion is that Indian opinion is in favour of it [gold currency], in the same sense in which British opinion was in favour of the gold standard a year ago In this matter there is always only a small minority of the public who take any intelligent interest in it If you take good class academic opinion in India, which I think ought to have some deference paid to it in a matter of this sort as representing true Indian opinion, I should have said that the weight of good academic opinion in India was in favour of a gold currency Many professors whom I consider deserve respect in other matters have expressed that view, and although I disagree with them on that I do not think their opinion ought to be swept on one side

Q —13,173 (Sir Alaxendar Murray) I appreciate that You think had to plead before an Indian Currency Commission that some regard ought to be paid to Indian academic and commercial opinion on this question Sir Alexander Murray (Currency Commissioner) asked Keynes· "You think that the academic opinion in India, although of very small volume, is of such value that it ought to be carefully weighed as against the unexpressed opinions of 80 or 90 per cent of the population ?" It is suggested that academic opinion in India does not represent the opinion of the inarticulate population The steady increase in the absorption of sovereigns into circulation from 1900 to 1914 is an incontestable proof of the fact that the masses of India want gold in circulation. Can it be seriously maintained that the "unexpressed opinions of 80 or 90 per cent of the population" are in favour of the gold bullion standard of the Currency Commission? Do they understand what these words mean ? And would they be pleased when they learn that under this standard the currency will chiefly consist of notes convertible into gold bars at Bombay in amounts not less than 250 *tolas*, the obligation of the Reserve Bank to sell gold being so framed "as to make it unprofitable for gold to be bought from it except in circumstances in which it would be profitable to do so for purely monetary purposes" (*i e*, export) ?

So much has been said, for the benefit of the people of India, about a gold currency being a sign of backward civilisation, that attention may be drawn here to the views of the Rt Hon'ble Montagu Norman, Governor of

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that the academic opinion in India, although of very small volume, is of such value that it ought to be carefully weighed as against the unexpressed opinions of 80 or 90 per cent of the population ?—Yes, I think it ought, because it is not only Indian academic opinion but there is also a considerable volume of Indian business opinion to the same effect I think all the methods one has of gauging Indian opinion would lead to the conclusion that Indian opinion, so far as it is intelligent and articulate, supports this. (*Evidence Vol V P. 160*) the Bank of England, on the subject *

Ludwig Mises, one of the leading European writers on money, in his book *Theorie des Geldes und der Umlaufsmittel* † says

> "European thought today, in regard to the question of currency, does not extend beyond the wish 'Return to gold currency' (*Rueckkehr zur Goldwaehrung*) This is thoroughly understandable, as a gold currency has hitherto on the whole, worked satisfactorily, it is true that it has not enabled us to attain the unattainable ideal of an unvarying internal, objective purchasing power of money, but it has kept the monetary system free from the influence of the Government and changing political aims" (P 401)

And again—

> "When the population becomes accustomed to the effective use of gold in daily intercourse, it will more strenuously oppose a policy of inflation than did the peoples of Europe in 1914 It will not be so easy, then, for the government to deny the reactions of waging war on the currency system, the government will be forced to justify its war policy The maintenance of an effective gold circulation will prove costly in the case of particular peoples, and it will at first lead to a general fall of prices, there is no doubt about that Still we must put up with these

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† Duncker and Humblot, Leipzig 1924

* The evidence of the Rt Hon Montagu Norman before the Currency Commission –

Q.—13,689 Will you be able to express an opinion as to whether the idea of reverting to gold currency in the matter of convertibility of the note may be said to have been practically abandoned? [Mr Montague Norman] That is circulation of coin?

Q —13,690 Convertibility of note into gold coin circulation?—Well, speaking for myself, I hope that the time may arrive both in this country and in India, when circulation of gold coin may again be resumed. So far as this country is concerned, I think it is very remote I rather suspect that so far as India is concerned, it is equally remote I do not expect to see it in this country myself

Q —13,691. You mean in your lifetime?—I mean in my lifetime, but *I like to cherish the hope that it will come back again, and will be a sign of that prosperity which I trust we may reach again*

Q —13,692. As regards British policy, you faintly trust to the larger hope?—*I intend to work for that end*, but I do not expect to see it in my lifetime.

disadvantages if we wish the currency system to serve other ends than those of preparing for war, revolution and disruption." (P 405).

We in India are also thoroughly tired of currency systems which can be manipulated by Government for its own ends The chief merit of the genuine gold standard is that it works automatically, and with the minimum of governmental interference It is a very sound principle which says that in currency matters a Government should do as little as possible (evidence of Dr Marshall before the Fowler Committee), and judged from this point of view there is nothing to beat a gold standard with a gold circulation.

The witness, of course, admitted (and who would not ?) that a gold currency is uneconomical, that gold in reserves is far more useful than gold in circulation for the maintenance of exchange and that a note is more convenient than gold coin for carrying in one's pocket (Q. 14,451-54) But in answer to Question 14,453 "Then your dream will never be fulfilled ?" the witness replied, "*I cannot say* I do not attempt to prophesy what will happen after our lifetime "

As regards the circulation of gold coins in the United States the same witness stated —

Q.—14,492 You referred to the United States as the only country which has a gold circulation ? Now

Q—14,493 Now. Did you refer to the circulation of gold coin or had you in mind the circulation of what are called gold certificates ?—I was thinking of both. I believe there is a considerable amount of gold coin in circulation as a matter of fact I was rather surprised to see it when I was there last I was thinking of the two together, I do not differentiate between them.

CHAPTER XIV

ADJUSTMENT OF RUPEE PRICES TO THE RATE OF EXCHANGE.

Even a superficial study of the Currency Report would show that one of the main reasons for the recommendation of the Currency Commission that the rupee should be stabilized in relation to gold at a rate corresponding to an exchange rate of 1s 6*d* for the rupee was that, at the prevailing exchange rate of about 1s 6*d* prices in India had attained "a substantial measure of adjustment with those in the world at large" (para 176) *

The argument of the Commission may be summarised as follows From December 1922 to June 1924 the gold exchange value of the rupee was about 15*d* During the same period the rupee price level as measured by the Calcutta Index Number remained fairly steady round 176 From July 1924 to January 1925 the rupee rose to about 1s 6*d* gold, and till the end of May 1925 it was held within the gold points of the 1s 6*d* (gold) rate During this period, *i e*, from July 1924 to June 1925, rupee prices fell from 179 to 157

In para 187 the Commission refer to the "marked fall in rupee prices in the first half of 1925" which "represented largely the tendency of those prices to adjust themselves to the rise in exchange, the greater part of which had occurred in the preceding half-year"

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* "We shall proceed to discuss a number of relevant issues which have been raised in this connection and we shall examine the question from various angles, but we wish to make it clear at the outset that the central, and as it seems to us the decisive, factor is the extent to which the prevailing rate of exchange is reflected in internal prices We are unanimous in holding the view—and, indeed it is a proposition which it would be difficult to controvert—that, *if* it can be shown that prices have to a preponderent degree adjusted themselves to the existing *de facto* rate, then that rate must be adhered to The further proposition, that such substantial adjustment has been secured, is a question of fact, as to which we shall now adduce the evidence on which our conviction is based" (para 177)

There are thus two questions to be considered· first the fact of the fall in Indian prices in the first half of the year 1925, and second, whether the fall was or was not the reflection of any downward movement in world gold prices

The following statement compares the movements of gold, sterling and rupee prices and course of exchange since January 1922 —

[*Table*

Statement comparing movements of gold, sterling and rupee prices and course of exchange since January 1922.

	Price Index Number			*Rate of Exchange from Calcutta on London on the 1st of the month*			
	Great Britain (*a*) (1913 parity)	United States (*b*) (1913 parity)	India (*c*) (July 1914 parity)	Sterling		Gold	
				s	*d*	*s*	*d*
1922—							
January	159	138	178	1	$3\frac{15}{16}$	1	$1\frac{25}{32}$
February	158	141	179	1	$3\frac{5}{8}$	1	$1\frac{23}{32}$
March	160	142	182	1	$3\frac{3}{16}$	1	$1\frac{27}{32}$
April	159	143	182	1	$3\frac{3}{16}$	1	$1\frac{21}{32}$
May	162	148	187	1	$3\frac{5}{32}$	1	$1\frac{25}{32}$
June	163	150	183	1	$3\frac{11}{16}$	1	$2\frac{3}{8}$
July	163	155	181	1	$3\frac{5}{8}$	1	$2\frac{3}{16}$
August	158	155	178	1	$3\frac{21}{32}$	1	$2\frac{5}{16}$
September	156	153	176	1	$3\frac{17}{32}$	1	$2\frac{7}{32}$
October	159	154	177	1	$3\frac{9}{16}$	1	$2\frac{7}{32}$
November	159	156	178	1	$3\frac{21}{32}$	1	$2\frac{11}{32}$
December	158	156	176	1	$3\frac{31}{32}$	1	$2\frac{27}{32}$
1923—							
January	160	156	179	1	$4\frac{1}{32}$	1	$3\frac{9}{32}$
February	163	157	180	1	$4\frac{5}{16}$	1	$3\frac{5}{8}$

	Price Index Number			*Rate of Exchange from Calcutta on London on the 1st of the month*			
	Great Britain (*a*) (1913 parity)	United States (*b*) (1913 parity)	India (*c*) (July 1914 parity)	Sterling		Gold	
				s	d	s	d
1923—*concld*							
March	163	159	181	1	$4\frac{5}{32}$	1	$3\frac{5}{8}$
April	165	159	178	1	$4\frac{1}{16}$	1	$3\frac{13}{32}$
May	164	156	177	1	$4\frac{3}{16}$	1	$3\frac{7}{16}$
June	160	153	175	4	$4\frac{1}{16}$	1	$3\frac{5}{16}$
July	155	151	170	1	$4\frac{3}{32}$	1	$3\frac{1}{8}$
August	155	150	171	1	$4\frac{1}{32}$	1	$3\frac{1}{16}$
September	160	154	174	1	$4\frac{1}{32}$	1	3
October	160	153	174	1	$4\frac{5}{32}$	1	$3\frac{3}{32}$
November	169	152	177	1	$4\frac{11}{16}$	3	$3\frac{3}{8}$
December	170	151	179	1	$5\frac{7}{32}$	1	$3\frac{3}{8}$
1924—							
January	173	151	172	1	$5\frac{5}{32}$	1	$3\frac{1}{16}$
February	173	152	178	1	$5\frac{1}{8}$	1	$3\frac{5}{16}$
March	172	150	179	1	$4\frac{1}{2}$	1	$2\frac{9}{16}$
April	172	148	174	1	$4\frac{21}{32}$	1	$2\frac{23}{32}$
May	168	147	176	1	$4\frac{11}{16}$	1	3
June	168	145	176	1	$4\frac{27}{32}$	1	$2\frac{15}{16}$

	Price Index Number			*Rate of Exchange from Calcutta on London on the 1st of the month*			
	Great Britain (*a*) (1913 parity)	United States (*b*) (1913 parity)	India (*c*) (July 1914 parity)	Sterling		Gold	
				s	*d*	*s*	*d*
July	173	147	179	1	5	1	3 $\frac{1}{8}$
August	172	150	180	1	5 $\frac{7}{16}$	1	3 $\frac{13}{16}$
September	176	149	179	1	5 $\frac{7}{33}$	1	3 $\frac{7}{8}$
October	180	152	181	1	5 $\frac{23}{32}$	1	4 $\frac{1}{4}$
November	179	153	180	1	6	1	4 $\frac{13}{16}$
December	180	157	176	1	6 $\frac{1}{32}$	1	5 $\frac{3}{16}$
1925— January	177	160	171	1	6 $\frac{1}{16}$	1	5 $\frac{21}{32}$
February	177	161	172	1	5 $\frac{15}{16}$	1	5 $\frac{11}{16}$
March	174	161	168	1	5 $\frac{31}{32}$	1	5 $\frac{17}{32}$
April	169	156	169	1	5 $\frac{27}{32}$	1	5 $\frac{17}{32}$
May	165	155	164	1	5 $\frac{13}{16}$	1	5 $\frac{23}{32}$
June	162	157	157	1	5 $\frac{31}{32}$	1	5 $\frac{15}{16}$
July	165	160	160	1	6 $\frac{3}{32}$	1	6 $\frac{1}{16}$
August	165	160	157	1	6 $\frac{3}{32}$	1	6 $\frac{1}{16}$
September	164	160	158	1	6 $\frac{5}{32}$	1	6 $\frac{3}{32}$
October	161	158	160	1	6 $\frac{5}{32}$	1	6 $\frac{1}{16}$
November ..	160	158	164	1	6 $\frac{5}{32}$	1	6 $\frac{1}{16}$
December	158		163	1	6 $\frac{5}{32}$	1	6 $\frac{1}{16}$

(*a*) Economist's Index Number (*b*) United States Bureau of Labour Index Number (*c*) Index Number of Wholesale Prices in Calcutta. [From *Appendices to the Report of the Currency Commission, 1925-26, Vol II, 33-34*].

The figures have been taken from a Memorandum giving the history of the Indian currency system, submitted to the Commission by Mr. A. McWatters, Secretary to the Government of India, Finance Department. Mr. McWatters thus comments on the course of prices: "From the beginning of the year 1922 till the end of 1924 Indian prices remained remarkably steady Since January 1925, however, there has been a downward movement which is in fairly close harmony with the renewed downward movement in sterling prices *

This is indeed very obvious The Calcutta index number stood at 180 in November and 176 in December 1924, or at about the same level at which it had stood at the end of the year 1922 Rupee prices thus remained remarkably steady between 1922 and 1924. We are therefore not entitled to speak of any violent downward movement of our prices before January 1925

From January to September 1925 there was a fall in rupee prices, but, as the statement given above shows, there was a precisely similar fall during the same period in *sterling* prices What was the relation of rupee prices to the world gold prices ?

The world gold prices for the Currency Commission mean the average of English prices (Board of Trade) converted into gold and gold prices in the United States (Bureau of Labour) They have neglected the rest of the world

The course of gold prices in the United States and in European countries in 1925 was not the same While prices in the United States remained fairly steady, gold prices in Europe fell appreciably. The average of price index numbers of the Board of Trade and the Bureau of Labour (United States) used by the Commission is misleading. To obtain a general view of world gold prices we must study the movement of gold prices in the more important countries of the world.

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* *Appendices to Currency Report, II, p 23.*

The following table shows the index numbers of wholesale gold prices in 1925 in the United States and 14 countries of Europe —

[Table

International Index Numbers of Wholesale Prices in Gold. (1913-14 = 100)

(The figures have been calculated in the case of each country with reference to pre-War prices, they are comparable only in regard to their movement)

	Year 1925											
	Jan	Feb	March	April	May	June	July	August	Sept	Oct	Nov	Dec
Germany, (Stat. R A)	138	137	134	131	132	134	135	132	126	124	121	122
Great Brit — (Board of Tde)	168	166	163	161	159	158	158	157	156	154	153	152
France— (Stat Gen.)	144	138	140	139	135	130	136	136	136	125	121	121
Belgium— (Min d L'Ind et du trav)	150	143	145	141	137	131	134	133	130	135	133	133
Netherland— (Cenr Bur v d Stat)	161	159	154	150	151	153	155	155	155	154	154	155
Denmark— (Finanstid)	156	152	151	150	151	156	163	156	147	146	148	145
Sweden— (Komm Koll)	170	170	169	164	162	161	161	159	157	154	155	156
Norway— (Oek. Rev)	159	160	159	163	164	165	175	178	179	168	165	165
Switzerland— (Lorenz)	171	170	166	163	162	162	161	160	159	157	157	155
Italy— (Bachi)	142	141	139	140	137	131	134	142	152	147	149	150
Spain— (Inst. Geogr v Estadist)	140	141	142	141	144	141	141	137	138	139	137	137
Austria— (Stat Nachr)	148	148	144	140	139	143	138	132	128	128	125	125
Czecho-Slovakia (Stat Staatsamt)	152	150	148	147	145	147	145	145	144	142	142	141
Poland— (Official)	120	121	122	119	118	119	120	107	110	109	104	88
United States of America— Bur of Labour	160	161	161	156	155	157	160	160	160	158	158	156

Wirtschaft und Statistik, Berlin, (published by the Government Statistical Department), 1 Feb Heft 1926, p 84.

The American index number for September was the same as that for January. But in 12 out of the 14 countries of Europe prices in September 1925 were lower than in January.

The explanation of the fall in European gold prices in 1925 is " increasing economic stagnation in most of the European countries" * in contrast to the favourable conjuncture in the United States. Prices had been rising in the year 1924, and the rise of prices was partly speculative The fall of prices in 1925 was in some measure due to a reaction against inflated prices, and mainly to increased production The revival of trade in the United States raised prices in the month of July in that country to the level of January, but "increasing depression" in Europe continued to lower prices in the great majority of European countries

In December 1925, as compared with December 1924, the world prices of the great majority of commodities had fallen This is shown by the following table —

[*Table*

' *Wirtschaft und Statistik*, 1 February Heft, 1926, pp 84-85.

	Rise (+) or fall (-) in price in Dec 1925 as compared with December 1924 Per cent
Wheat	+ 1
Rye	- 25
Barley	- 24
Oats	- 2
Maize	- 12
Beef	- 9
Mutton	- 11
Pork	+ 31
Lard	- 11
Tallow	- 9
Butter	- 18
Linseed oil	- 21
Rapeseed	- 3
Rapeseed oil	- 4
Sugar	- 23
Coffee	- 15
Tea	- 12
Cocoa	- 9
Tobacco	+ 3
Hides	- 1
Leather	- 10
Cotton	- 21
Wool	- 29
Silk	+ 8
Jute	+ 57
Hemp	- 16
Flax	- 39
Rubber	+ 189
Iron	- 16
Copper	- 3
Zinc	+ 8
Tin	+ 12
Lead	- 12
Coal	- 10
Petrolum	- 5
Saltpetre	- 2

(These figures are based on English prices converted into gold, except in the case of rye and sugar, for which New York quotations were used *Wirtschaft und Statistik*, 1 Februar Heft, 1926, p 87).

Such was the course of world gold prices during the year 1925 It is seen that the downward movement of the rupee from January to September 1925, *was* the reflection of a similar movement not only in English, but European gold prices.

The fall in our prices in harmony with European gold prices was natural The greater part of our foreign trade is with the United Kingdom and the Continent of Europe. The share of the United States in our total foreign trade is about 10 per cent

In a study of the price movement in relation to the exchange movement, it is always desirable to investigate the causes of the rise or fall in the prices of individual commodities The rise or fall of prices is not always due to changes in the rate of exchange, and even if the price of a commodity falls at a time when exchange is rising, the amount of the fall in price being equal to that of the rise in exchange, the causes of the fall may be wholly unconnected with the rise in exchange. Hence the importance of the study of price fluctuations in the case of individual commodities

A detailed study of the movements of Indian prices from 1861 to 1891 was made in connection with the Indian currency reform of 1893[1] The subject also attracted the attention of a foreign writer, Dr. Paul Arndt, whose work *Die Kaufkraft der Rupie*[2] may still be read with interest. At the very outset Dr Paul Arndt says .—

> "So far as the available material permits, I shall try to answer the question, whether the price level has risen within the 25 years in question (1870—95), *for each important commodity separately*, it will then become so much the easier to recognise the causes to which, on the whole, the fluctuations in prices are to be ascribed" (italics Dr Arndt's)[3]

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[1] *Papers relating to Changes in the Indian Currency System, Simla 1893 pp. 31—52*

[2] Tuebingen, 1897 Verlag der H, Laupp'schen Buchhandlung

[3] Pages 12-13.

Similarly, O'Conor, in his paper on Prices, written in 1892, undertakes a detailed examination of the fluctuations in the prices of articles of import and export, and of wholesale as well as retail prices.

This is the only right and proper method of investigation in such a case It is most remarkable that the Currency Commission should have recommended the stabilization of the rate of exchange at 1s 6d, mainly on the ground that Indian prices had become adjusted to the rate of exchange, without having considered whether in the case of the larger number of the more important commodities such adjustment had taken place The Currency Report does not contain a single reference to the price of any article, whether of import or export !

The gold value of the rupee fluctuated about the level of 15*d* gold from January 1922 to February 1924. In March 1924 it fell to 1*s*. $2\frac{9}{16}d$, but thereafter, ignoring minor fluctuations, it rose continuously to 1*s* $6\frac{3}{32}d$ in September 1925 Between March 1924 and September 1925, thus, the gold value of the rupee rose 24 per cent. To what extent did rupee prices fall in this period by way of adjustment to the very considerable rise in exchange ?

The following table shows the prices of the more important articles of export and import in March 1924 and September 1925, and the extent of the rise or fall in each case in September 1925 (March 1924=100)

[*Table*

Wholesale Market Prices.

	March 1924			Sept. 1925			Index No March 1924 = 100
	Rs	a	p	Rs	a	p	
Cereals—							
Rice, Rangoon Small Mill, per md	6	1	2	6	6	10	106
Wheat, Delhi No 1, per cwt	6	13	0	8	5	3	122
Wheat, Khandwa Seoni, per candy	57	8	0	71	0	0	123
Wheat, Jubbulpur, per candy	46	0	0	55	8	0	121
Jowari, Rangoon, per md	4	7	1	4	2	0	93
Barley, ,,	3	6	2	4	7	1	131
Bajri, Ghati, ,,	4	0	4	4	15	7	124
Pulses—							
Gram, Punjab Yellow, 2nd sort, per md	3	4	6	4	7	1	135
Turdal, Cawnpore, per md	5	1	3	5	13	1	115
Sugar—							
Java white, per cwt	26	4	0	14	13	0	56
Raw (Gul) Sangli, per md	8	13	6	12	14	10	146
Other Food—							
Turmeric, Rajapuri, per md	25	0	7	10	1	1	40
Ghi, Deshi, per md	85	11	5	88	9	2	103
Salt, Bombay (black) per md	2	4	0	2	4	0	100
Oilseeds—							
Linseed, Bold, per cwt	12	7	0	12	15	0	104
Rapeseed, Cawnpore, brown per cwt	9	12	0	11	8	0	118
Poppyseed, Cawnpore, per cwt	12	10	0	13	10	0	108
Gingelly, White, ,,	15	8	0	14	11	0	95
Cotton, raw—							
Broach, Good, per candy	560	0	0	462	0	0	83
Cotton manufactures—							
Twist, 40 S, per lb	1	14	0	1	8	0	80
Grey shirtings, Farl, 2,000, per piece	13	14	0	11	8	0	83
White mulls, 6,600 per piece	9	0	0	10	12	0	119
Shirtings, Liepmanns, 1,500, per lb.	29	0	0	22	12	0	78
Long cloth, local made, 36" × 37½ yds , per lb	1	7	6	1	2	3	78

	March 1924.	Sept 1925	Index No. March 1924 = 100
	Rs a p	Rs. a. p	
Chudders, 54" × 6 yds, per lb	1 4 9	1 1 3	83
Silk—			
Silk, Manchow, per lb	9 13 0	7 10 7	78
Silk, Mathow Lari, per lb	8 3 9	4 11 3	57
Hides and skins—			
Hides, cow, tanned, per lb	1 11 9	1 11 4	98
Hides, buffalo ,, ,,	0 11 11	0 12 11	108
Skins, goat ,, ,,	2 7 11	2 7 11	100
Metals—			
Copper braziers, per cwt	74 8 0	62 8 0	84
Iron bars ,,	7 0 0	7 0 0	100
Steel hoopes, ,,	11 4 0	11 0 0	98
Galvanized sheets ,,	16 4 0	14 0 0	86
Tin plates, per box	20 0 0	16 8 0	83
Other raw and manufactured articles—			
Coal, Bengal, per ton	24 10 0	22 14 0	93
Coal, imported, per ton	26 11 8	24 6 11	91
Kerosine, Elephant brand, per 2 tins	7 4 6	7 7 0	102
Kerosine, Chester brand, per case	9 8 0	9 8 0	100
Tea, Calcutta, average sale price, per lb	0 12 0	0 12 2	101
Jute, raw—			
Firsts, per bale of 400 lb	61 0 0	102 0 0	167
Lightnings ,,	55 8 0	97 0 0	181
Jute manufactures—			
Bags, B Twills 2¼ lbs per 100 bags, Near	53 8 0	67 4 0	120
Hessian cloth, 8 oz 40" per 100 yds	16 0 0	19 6 0	121
Hessian cloth, 10½ oz per 100 yds	20 10 0	25 0 0	121
Indigo, Calcutta, current market price—			

	March 1924	Sept 1925	Index No March 1924 = 100
	Rs a p	Rs a. p.	
Up to 68 % of unit of colour, per fact md	3 12 0	3 12 0	100
Over 68 % of unit of colour, per fact md	4 4 0	4 4 0	100
Wool, raw—			
Karachi, Kandahar, per md	42 0 0	47 0 0	112
Coffee –			
Bangalore, Peaberry Parchment, per 26½ lbs	22 8 0	23 8 0	104
Bangalore, Parchment, per 26½ lbs.	16 4 0	16 8 0	102
Total 39 articles			3,822
Average ,,			98
Total 50 articles			5,151
Average ,,			103

(The first 39 articles are those included in the index number of wholesale prices in Bombay (Bombay Labour Gazette) and their price quotations have been taken from the Labour Gazette The prices of the remaining 11 articles, not included in the Bombay index number, are those for the latter half of the month and have been taken from the Indian Trade Journal for March 27, April 3, 1924, and October 1, 1925 For tea the average sale price for the month of March was not available and therefore the quotation for February 26 (1924) has been used)

Of the first 39 articles, the price of 18 fell, of 4 remained stationary while that of the remaining 17 rose. Of the 11 articles not included in the Bombay index number, the price of 2 did not change, while that of the other 9 rose

Out of a total of 50 articles, it would be absurd to talk of any adjustment of price to the rate of exchange in the case of 32, whose price showed no fall at all.

In the case of the articles which fell in price, it is impossible to say how far the fall was due to the rise in exchange or to causes affecting world production and consumption

The case of turmeric is exceptional The price of turmeric per maund was Rs 5-9-3 in July 1914, Rs 31-4-8 in January 1923 and Rs 39-11-8 in December 1923 The index number for turmeric rose to 712 in December 1923* (July 1914=100), after which a rapid fall set in Within less than a year the index number had fallen in 454 (October 1924) and in September 1925 it stood at 180

The fall in the price of sugar (Java white) and cotton, raw and manufactures, was due to world causes.

The gold price of sugar was already falling in 1924, it fell further in 1925 The abundant cotton crop in the United State lowered the gold price of raw cotton in 1925

The gold price of silk, on the whole, tended to rise in the world's markets in 1925, and the heavy fall in the price of silk in India must be due to causes peculiar to India

The causes of the fall in the price of Indian coal are well known According to the Report of the Tariff Board on Coal, the fall in price in 1924 and 1925 was due to an over-rapid development of the industry The causes of the fall in price are not connected with the rise in exchange but " the excess of production over demand "† The world price of coal fell at the same time

It is obvious that when the price of a commodity falls at a time when exchange is rising, it is wrong to infer that the fall in price *must* be due to the rise in exchange

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* The exclusion of turmeric lowers the general index number (Bombay) for December 1923 from 188 to 175, or by 13 points (arithmetic average)

† Tariff Board's Report on the grant of protection to the Coal industry, 1926, p. 24

The rise or fall of price by groups is shown below :—
March 1924 = 100.

Rise in price		*Fall in price*	
Cereals (7)	+ 117	Other Food (3)	− 81
Pulses (2)	+ 125		
Sugar (2)	+ 101	Cotton raw (1)	− 83
Hides and Skins (3)	+ 102		
Kerosine (2)	+ 101	Cotton nanufactures (6)	− 87
Tea (1)	+ 101		
Jute raw (2)	+ 174	Silk (2)	− 68
Jute manufactures (3)	+ 121		
Wool (1)	+ 112	Metals (5)	− 90
Coffee (2)	+ 103		
Oil Seeds (4)	+ 106	Coal (2)	− 92
	Indigo (2) no change		

The fall in the group "Other Food" was due to turmeric, whose price fell 60 per cent, the price of *ghi* rose 3 per cent while that of salt did not change.

Considering the special influences acting on the world prices of certain commodities like sugar, cotton and coal, which made them fall, and the fact that the prices of the larger number of the commodities showed no fall, the evidence in favour of the view that prices in September 1925 had become adjusted to the rate of exchange is not very strong.

It is a most curious fact that while there was undoubtedly a fall in the Indian price level from January to September 1925 in harmony with the fall in gold prices in Europe, the average price of the articles mentioned in the table given above in September 1925 was practically the same as in March 1924, in spite of the fact that in September 1925 the gold value of the rupee was 24 per cent higher than in March 1924. The average of the 39 articles included in the Bombay Index Number in September 1925 was 98, and of all 50 articles 103.

The strongest argument in favour of the stabilization of exchange at 1*s* 6*d*. was that 1*s* 6*d*. was the *de facto* rate. The argument based on the adjustment of rupee prices to the rate of exchange is of little value

The rise of exchange is explained by the financial policy of the Government

The currency was contracted by 31 crores 58 lakhs in 1920-21 and the policy of contraction was continued in the following two years, the net contraction made in these two years being 111 lakhs and 569 lakhs respectively. Seasonal currency was issued and withdrawn in 1921-23 and in the following years By January 1923 exchange had risen to about 1*s* 4*d* sterling, and it continued to rise Helped by good monsoons, favourable balances of trade and cessation of the fall in world prices in 1923 and 1924, and owing to their control of the local financial situation, the Government of India, in the words of Mr McWatters, were able " to take action of a kind which had the natural result of improving the exchange value of the rupee "† After the rise of exchange to 1*s* 6*d* sterling (=16*d* gold) in October 1924, the action taken by the Government was to prevent the rise of the rupee above that rate

Attention may also be drawn in this connection to the change in the method of Government remittances and its effect upon exchange At the present time Government remittances are made to England chiefly by purchases of sterling in India, not by the sale of Council Bill by the Secretary of State in England The change was introduced in 1923-24 " The object underlying the change was that the factors influencing the immediate course of exchange could be gauged more accurately and more promptly in India, and by regulating the purchases with reference to the varying conditions of the market, the operations of Government could be conducted so as to avoid violent fluctuations in rates with benefit both to trade and to the country generally."† The rise of exchange in the early part of 1924-25 was steadied by the Government purchases of sterling, and from October 1924 onwards, when exchange had reached 1*s* 6*d* (sterling) the readiness of Government to purchase large amounts of sterling at or about this rate kept exchange comparatively stable The rise in the sterling-dollar exchange made 1*s*. 6*d* sterling equal to 1*s* 6*d* gold

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† *Appendix to Currency Report II, p. 18*

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† *Appendices to Report of Currency Commission, 1925-26, II, 22.*

CHAPTER XV.

EXCHANGE AND PRICES—PAST EXPERIENCE

We have seen that the rise in exchange between 1922-25 must be attributed to the financial measures adopted by the Government We have also seen that the claim of the Currency Commission that Indian prices became adjusted to the 1*s* 6*d* ratio is based on very little evidence

Between 1873 and 1925 exchange was a stable for a comparatively short period—from 1898 to 1914, in other years it was either rising or falling The relation of exchange to prices in the past forms an interesting subject of study The question which will occupy our attention in this Chapter is the same as was disccussed in the preceding Chapter, *i e*, how far our prices adjusted themselves in the past to a falling, rising or stable exchange

For the sake of clearness we may divide the subject into four parts

(1) 1873-95, period of falling exchange This period saw the closing of the mints to the coinage of silver (1893), and the conversion of the rupee, which was a full value coin before 1893, into atoken coin

(2) 1895-98, period of rising exchange

(3) 1898-1914, period of stable exchange The gradual evolution of the gold exchange system belongs to this period.

(4) 1914-24, perhaps the most interesting period in the history of Indian currency As we have seen, it saw the breakdown of the gold exchange system during the war and a rise of exchange which reached its culmi-

nating point in February 1920 The pound was re-valued in 1920 at 10 Rs = 1£ Exchange fell for about two years and then rose again

Period of Falling Exchange, 1873—95.

The fall in exchange between 1873 and 1895 was due to the fall in the price of silver But the more interesting question with which we are concerned is whether the purchasing power of the rupee in terms of commodities in India decreased in the same proportion as the gold value of the rupee, or whether it decreased at all

The Government of India addressed a despatch[1] to the Secretary of State for India in August 1892 on the subject of Indian prices, enclosing a short paper by J E O'Conor, Assistant Secretary in the Department of Finance and Commerce, on the range of prices in India. In paragraph 7 of the despatch the Government of India referred to the connection between prices and exchange as follows " Your Lordship is no doubt aware that, although there must be a connection between the range of prices and the standard of value, it is in practice extremely difficult, if not impossible, to trace the connection[2] The extent to which fluctuations of price are due on the one hand to such causes as the failure of crops or the apprehension of scarcity can never be determined with accuracy. The figures we have just given confirm this conclusion " From the paper prepared by O'Conor and the price statistics quoted by him it appears that the wholesale prices of imports generally, as compared with 1873, had fallen in 1892 by 26 per cent in the case of cotton goods, from 36 to 43 per cent. in the case of cotton yarns, 36 per cent in the case of iron and 28 per cent in the case of copper The price of kerosine oil fell 24 per cent in the case of American oil and 19 per cent in the case of Russian oil as compared with 1888 (no figures before 1888 available)

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[1] Papers relating to Changes in the Indian Currency System, 1893, p. 31.

[2] The Hon J L Mackay, of Mackinnon Mackenzie and Co , owners of jute and cotton mills and general merchants' agents, in the course of his evidence before the Herschell Committee thus referred to the connection between prices and exchange (Q 1068) " . if you take the case of jute for instance, jute was Rs. 9 a maund last year, and this year, with exchange much lower, it is about four It is exceedingly difficult to trace the connection between the standard and prices. I am unable to do it."

As regards exports, the position in 1892 as compared with 1873 was as follows

Wholesale Prices in 1892 (1873 = 100)

Articles	Prices	Articles	Prices
Articles which fell in price*		Shellac, middling	95†
Cotton Broach,	75	Silk, raw Sardah	64
,, yarns, 20s	65	Articles which rose in price	
,, T cloth	77	Wheat, Bombay	118
Hides, cow	66	,, Calcutta	103
Indigo, Good	74	Rice, *Moonghy*	162
Opium, Bengal	89	,, *Ballam*	169
,, Malwa	88	Linseed, Bombay	110
Tea, good Souchong	41	,, Calcutta	112
Articles of minor importance which fell in price		Jute, picked	236
		,, ordinary	231
Saltpetre	85	Gunny bags	132

* These articless represent 47 per cent of the average value of the exports of Indian merchandise in the five years ending 1892 —† A speculative trade with great fluctuations in price, 67 in 1891

O'Conor thus commented on the rise in the prices of these articles[1] "The general rise of price of these articles in 1892 is due to special and exceptional reasons, and except as regards rice, it cannot be said that prices show any distinct tendency to a permanent rise Generally it may be said that with the exception of rice (which has shown a distinct upward tendency since 1887) and jute, all the important staples of the export trade have either not increased or have fallen in price "

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[1] Papers relating to Changes in the Indian Currency System, 1893, p 35.

The following statement compares the fluctuations in Indian prices and the course of exchange in this period :

Year	Average rate of exchange per Re	Index No	*Index Numbers of Prices*		
			Exported articles (28)	Imported articles (11)	General Index No for all (39) articles
1873	22·351	100	100	100	100
1879	19·961	89	112	83	104
1881	19·308	86	96	78	91
1889	16·379	73	104	91	101
1894	13·100	59	110	84	102

(Source *Index Numbers of Indian Prices, 1861—1926*, Department of Commercial Intelligence and Statistics. Figures of Exchange are for fiscal years 1873-74, etc The fiscal year ending 31st March 1874 corresponds more closely to the calendar year 1873 than the fiscal year ending 31st March 1873)

Between 1873-74 and 1894-95 while exchange fell heavily (41 per cent) the rupee price level rose 2 per cent. in 1894 and 4 per cent in 1895 The index number for exported articles shows a 10 per cent rise in 1894 and 11 per cent rise in 1895, while that for 11 imported articles was 16 per cent. lower than the level of 1873 in 1894 and 13 per cent. lower in 1895.

The prices of food-grains were much influenced by scarcity conditions in this period The index number of the retail price of food-grains rose to 174 in 1878 and stood at 160 in 1879 (1873 = 100).* It was again high in 1889 (119), and rose to 148 in 1892, after which it fell to 114 in 1894 The high level of food prices in 1891-95 was partly due to increased foreign demand for rice and wheat.

The effect of the fall in exchange on rupee prices is obscured not only by the fluctuations of the seasons, but by another powerful influence which was then at work European prices were falling from 1873 to 1896 , this would account for the fall in the price of imported articles, in spite of the great fall in exchange Among exported articles, neglecting food-grains, the prices of the following articles had fallen in 1894 cane jaggery (Madras) , tea , rapeseed , cotton, raw and manufactures , silk raw , wool raw , and coal (1889 in the case of coal = 100). *Ghi* remained stationary. O'Conor attributed the rise in the price of jute, raw and manufactures, and linseed to special causes, and this must also be the explanation of the rise in the price of indigo (1893-96), shell-lac (1893-96) and saltpetre (1894-95) In 1892 all three were lower in price than in 1873. On the whole, while our prices show some effect of the fall in gold prices, it is impossible to speak of any adjustment of prices to the rate of exchange

Period of Rising Exchange, 1895—1898.

The Indian mints were closed to the coinage of silver in 1893 with the object of stabilizing exchange at 16*d.* per rupee The 16*d.* rate had been chosen as it represented the exchange value of the rupee in the years immediately preceding the closing of the mints to the coinage of silver.

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* *See Index Numbers of Indian Prices, 1861-1926.*

Government hoped to prevent a fall in exchange below 16*d* by "starving the circulation" If, while population is increasing and trade is expanding the growth of currency is restricted, the effect would be to reduce the volume of the currency in relation to trade. The results of the currency experiment which the Government were determined to try were uncertain[1] But as soon as the Government decision became known, speculation in rupee paper caused exchange to rise rapidly, and it was thought even in official circles that the new gold par would be reached within a few months[2] But then came the reaction The high rate due to speculation could not be maintained, and the closing of the mints was not immediately followed by any contraction of the circulation. Exchange fell. Having reached its lowest level in January 1895, exchange began to rise slowly in spite of the continued fall in the price of silver The average rate of exchange in 1895 was 13 3*d*, in 1896 it was 14 4*d*; and in 1897, 15 3*d* In the latter part of 1897 exchange nearly touched the 16*d* par. Between 1895 and 1898 thus the gold value of the rupee gradually increased How far did the rupee appreciate in this period in terms of commodities in India?

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[1] Sir David Barbour, Finance Member of the Government of India, in introducing the Bill for closing the mints said "It may well be asked whether it will be possible for us to make the gold standard effective at once To this question I cannot give a confident answer, and I do not believe that it is possible for anyone to do so It may be that the gold standard can be made effective from the first, although it will not be secure until there is a considerable amount of gold in our treasuries and banks Or it may be that the making of the gold standard effective will involve a long and arduous struggle, and necessitate heavy sacrifices"

[2] "Although it cannot be said that either the Herschell Committee's Report or the statements of the Government of India gave the public any warrant for believing that the closing of the mints would result in an immediate advance in exchange to the 16*d* par contemplated, nevertheless many influential persons promptly came to the conclusion that such would be the result As soon as it was known that the mints would be closed and that the gold value of the rupee was to be raised to a maximum of 16*d* there began a heavy speculation in rupee paper which forced exchange up rapidly, and the advance itself tended to confirm the belief of those who expected the immediate attainment of a 16*d*. rate Even the Indian Government became convinced of the soundness of this belief, and, apparently expecting the attainment of the new gold par within a few months, urged the Secretary of State for India not to sell his Council bills below a 16*d* basis" E. W Kemmerer, *Modern Currency Reforms*, p 40 sq

The outstanding feature of this short period is the famine of 1896-97, one of the severest famines in the history of modern India As the result of the famine, retail prices of food-grains, rose to 155 in 1896 and 209 in 1897, and the index number for 28 exported commodities rose to 111 in 1896 and 117 in 1897 (1873=100) But the rise of prices in 1896 and 1897 was confined to food-grains and a very limited number of other articles There is no question that prices were tending to fall. Of the 28 exported commodities, ignoring food grains, only cane jaggery, castor oil and raw hides were higher in price in 1898 as compared with 1895 Of the 11 imported articles, prices of 4 rose in 1898 (salt, iron, spelter and coal). The average prices of exported and imported articles and the general index number fell.

Index Numbers of Average Prices of Exported and Imported Articles 1895 to 1898[1] *(1873=100).*

Year	Exported articles	Imported articles	General index number
1895	111	87	104
1896	117	94	110
1897	124	86	113
1898	110	80	96

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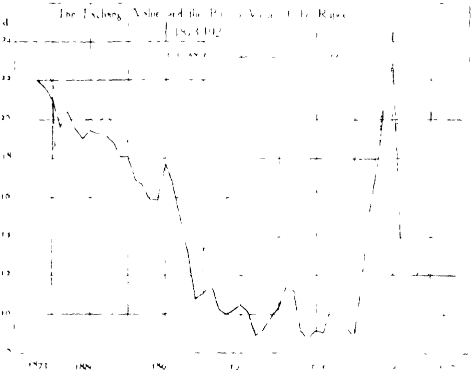
[1] *cf. Index Numbers.*


The Exchange Value and the [illegible] Value of the Rupee
1873-1912
d
24
22
20
18
16
14
12
10
8
1873
1880
1890

It is therefore evident that apart from the famine of 1896-97 the movement of prices in India in this period was in the downward direction, and that prices were actually lower in 1898 than in 1895. The rupee had appreciated in terms of commodities in 1898 at the same time that its gold value increased Is there any connection between these two facts ?

A fall of prices makes a country a good market to buy in and a bad market to sell in Exports thus increase and imports decrease, and this is the state of trade favourable to a rise in exchange. But so far from exports being encouraged, net exports from India, in 1896-97 and 1897-98, on account of the disastrous famine of 1896-97, were less than in 1895-96

Exports and Imports 1895-96 to 1897-98 (Lakhs of Rs.)

Years	Exports	Imports	Net exports
1895-96	114,26	69.32	44,94
1896-97	103,91	71,79	32,12
1897-98	97,54	69,27	28,27

The decline in exports was principally due to the decline in the exports of certain articles (coffee , raw cotton, indigo, wheat, rice and other sorts of grain and pulses , and oil seeds) for which the famine of 1896-97 was responsible.

It must be admitted that on account of famine economic conditions in India in 1896-97 and 1897-98 were exceedingly unfavourable, and exchange should have fallen. Exchange nevertheless rose. How was that possible ? The causes of the rise or fall of exchange as has been said above, are not always found in changes in prices, exchange is subject to many peculiar influences of its own For example, we have seen that the announcement that the mints would be closed to the coinage of silver led to speculation which caused a rapid, though temporary, rise in the exchange value of the rupee, independently of any change in prices The rise of exchange between 1895 and 1898 was due, not to favourable trade conditions, or the fall of prices in India, but firstly to certain financial measures adopted by the Government of India, and secondly, because, as Dr M Bothe points out[1], the position taken by the Government of India in international discussions on currency questions was calculated to strengthen the confidence of foreign countries in the determination of the Government to carry through currency reforms in India to a successful conclusion

The famine of 1896-97 cost the Government over 17 crores While the Government of India's financial resources were strained to their utmost by the famine, a large military expedition had to be organized in the latter part of 1897 to suppress the rising of frontier tribes The financial burden thrown upon the Government by the famine and the military expedition (particularly the former) was heavy To meet the expenditure Government raised loans in India and in England, and on 15th December 1896 the fiduciary paper currency was increased from 8 to 10 crores. Further, the sale of Council bills by the Secretary of State for India was at first limited, and then in September and October 1897 stopped altogether. Finally on 3rd September 1897 the Secretary of State appeared in the London market as a purchaser of bills on India, for some of which he paid a price of $16^{3}/_{32}$*d.* per rupee

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[1] M. Bothe, Die indische Waehrungsreform seit 1893 Stuttgart and Berlin 1904 P 132

The most important factor which influenced the exchange was the limitation of the sale of Council bills and the cessation of sales in September and October 1897 The total amount of the drawings of the Secretary of State in 1897-98 was £9,506,000 as compared with £17,664,000 in 1895-96 In the first eight months of the financial year, from April to November 1895, the total drawings amounted to £12,086,000, in the corresponding months of 1897 only to £4,253,000 It cannot be doubted that the real causes of the rise of exchange, apart from the feeling of confidence in the Government's currency policy, were the financial measures which the Government was forced to adopt, not with the object of raising exchange, but in order to meet the heavy expenditure it had incurred on account of famine and trouble on the North-West Frontier These measures exercised a favourable influence on India's balance of obligations, and thus caused exchange to rise There is here absolutely no question of any correlation between the price movement and the exchange movement in the period 1895—98 Left to itself exchange should have fallen That it did not fall, but actually rose, is not due to the tendency towards the fall of prices in India which undoubtedly existed, but to the factors mentioned above Prices were tending to fall owing to the contraction of the circulation in the absolute sense. The actual circulation of rupees and currency notes between 1893 and 1898 was thus estimated by Prices Inquiry Committee of 1910 [1]

Year	Crores of Rs	Year	Crores of Rs
1893	132	1896 ...	127
1894	129	1897	125
1895	132	1898	122

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[1] *Report of the Prices Inquiry Committee of* 1910 P 92.

Period of Stable Exchange 1898—1914.

From 1899 to the outbreak of the World War exchange remained stable and did not fall below 1*s*. 4*d*. except in the crisis of 1907-08

But while the gold value of the rupee remained stable its internal purchasing power fell heavily in this period. According to the index numbers of the Statistical Department, prices of all exported articles in India, excepting sugar, raw silk, lac and indigo, were higher in 1913 than in 1899, excepting sugar and salt, prices of all imported articles had also risen

The causes of stability of exchange are to be found in the conditions of trade which were favourable throughout the period except in the crisis of 1907-08, when for a time the balance of trade turned against India and exchange fell Average net exports increased from 40 crores in the quinquennium 1899-1900 to 1903-04, to 45½ crores in the quinquennium 1904-05 to 1908-09, and to 72½ crores in the quinquennium 1909-10 to 1913-14 It would have been surprising if the gold value of the rupee had fallen when trade conditions were so favourable for India. But it is remarkable that the gold value of the rupee remained stable at a time when the rupee was depreciating rapidly in terms of commodities

War and post-War Period

We now proceed to consider the relation between exchange and prices in the period 1914—1924

The main facts regarding the rise of prices in India and other countries have been discussed in a preceding Chapter, and attention has been drawn to the smaller extent of the rise of prices in India in 1914—20. The monthly flucations of prices in India and the United Kingdom are shown by the tables given below.—

Index Numbers of English Prices (Economist)
(Prices at the end of July 1914 = 100)

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
January		116	150	193	225	228	303	219	167	169	182
February		122	156	198	227	226	318	202	166	172	182
March		129	156	207	229	222	326	199	168	171	181
April		130	163	210	231	225	328	192	167	173	181
May		130	169	211	234	233	320	191	170	172	177
June		126	164	220	238	241	306	188	171	168	177
July	100	128	164	218	239	251	307	186	171	163	182
August	105	128	171	220	244	254	302	188	166	163	180
September	108	130	172	220	243	257	290	192	164	168	184
October	106	131	179	222	242	265	280	178	166	168	189
November	107	136	186	225	242	272	257	174	167	177	188
December	109	141	191	226	238	287	231	170	166	179	189

Index Numbers of the Wholesale Prices of 75 Articles at Calcutta (Prices at the end of July 1914 = 100)

	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
January		110	124	142	168	188	218	178	178	179	172
February		112	122	141	177	171	209	174	179	180	178
March		108	123	143	176	180	198	175	182	181	179
April		108	122	137	170	190	200	183	182	178	174
May		110	128	145	173	197	210	184	187	177	176
June		111	127	137	172	199	206	178	183	175	176
July	100	112	125	142	178	215	209	183	181	170	179
August	104	113	126	142	190	204	209	184	178	171	180
September	100	114	128	143	197	200	208	187	176	174	179
October	102	114	132	154	190	205	206	184	177	174	181
November	104	116	140	171	183	210	194	180	178	177	180
December	106	116	144	168	188	214	180	180	176	179	176

The sale of Reverse bills with the object of strengthening exchange in 1914-15, 1915-16 and 1918-19 has been mentioned before Apart from short periods of weakness, exchange tended to rise

The rise of prices in India during the war, as in other countries, was principally due to inflation, but the amount of inflation in India as compared with other countries was small. As the result of deflation, a heavy fall of prices occurred in European countries after 1920. As compared with 1920 the English index number in 1923 fell 143 points, of Canada 90 5, Sweden 190, Norway 144, Denmark 137, Holland 141, and United States 52 Indian prices also fell, but not much. In spite of the much greater rise of prices in Europe during the War, in 1924 prices in the United Kingdom (164), Canada (155), Sweden (155), Holland (156), and the United States (140) were lower than in India (178)

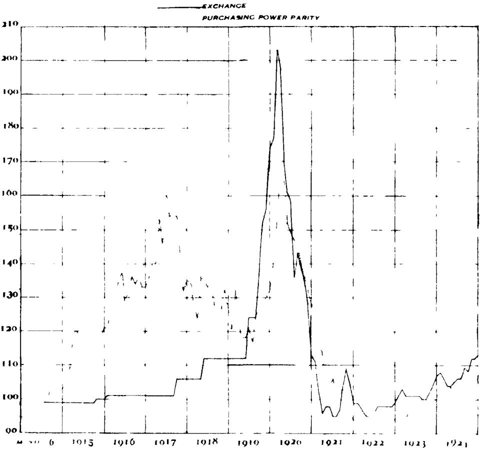
Measures were taken by the Government in 1917 to control exchange with the object of limiting the rise. This control was terminated after the armistice. The monthly fluctuations of exchange between 1914 and 1924 are shown by the following index numbers. Rates of exchange are given on p. 294

Exchange Index Numbers 1914-24 (16d. = 100).

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
January	101	99	101	101	106	112	177	111	99	101	108
February	101	99	101	101	106	112	203	103	98	103	106
March	100	99	101	101	106	112	197	96	96	101	104
April	100	99	100	101	106	112	170	98	95	101	104
May	102	99	101	101	112	112	161	98	95	101	105
June	99	99	101	101	112	124	158	95	96	101	106
July	99	99	101	101	112	124	136	95	98	101	106
August	99	99	101	101	112	124	143	97	98	100	109
September	99	99	101	106	112	137	138	104	98	100	108
October	99	100	101	106	112	152	134	109	98	102	112
November	99	100	101	106	112	156	128	104	98	104	112
December	99	100	101	106	112	174	113	99	99	107	113

What is the relation between exchange and prices in 1914-24 ? Are the fluctuations of exchange, i e., the rise in 1914-20, the fall in 1920-22, and the subsequent im-

Exchange and purchasing power parity 1914 1924



To face p 295

provement in exchange explained by the movements of Indian prices, or their relation to prices in the United Kingdom ?

The following table shows the purchasing power parities between India and England from July 1914 to December 1924. For England, index numbers of prices of the Economist have been used, and for India, the index numbers of the Commercial Intelligence Department, Calcutta The basic period in each case is July 1914.

Purchasing Power Parities between India and England 1914—24 (Index Numbers of English Prices divided by Indian)

Month	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
January ..	—	105	121	136	134	121	139	123	94	94	106
February	—	109	128	140	128	132	152	116	93	96	102
March	—	119	127	140	124	123	165	114	92	94	101
April .	—	120	134	153	136	118	164	105	92	97	104
May	—	118	137	146	135	118	152	104	91	97	101
June .	—	114	129	160	133	121	149	106	93	96	101
July	100	114	131	154	134	117	147	102	94	96	102
August .	101	113	136	155	128	124	144	102	93	95	100
September	108	114	134	154	123	129	139	103	93	97	103
October	104	115	136	144	127	129	136	97	94	97	104
November	103	117	133	132	132	130	132	97	94	100	104
December	103	121	133	135	127	132	128	94	94	100	107

Purchasing power parity rose to 121 in December 1915, 137 in May 1916, and 160 in June 1917 In December 1915 Indian prices had risen 16 per cent above the level of July 1914 (English 41 per cent), in December 1916, 44 per cent (English 91 per cent.), and in November 1917, 71 per cent (English 124 per cent.). Purchasing power parities were high on account the more rapid rise of English prices. Exchange, on the other hand, had risen only 1 per cent. in December

1916 and 6 per cent in November 1917. According to purchasing power parity, exchange in June 1917 should have been a little more than 2*s*, the actual rate of exchange, however, was only 1*s* $4^{7}/_{32}$*d* On account of unfavourable agricultural conditions in 1918-19, combined with the shortage of imports, which began now to be increasingly felt, Indian prices rose to 197 in September 1918 and 215 in July 1919 During the greater part of this period English prices were either rising slowly or falling (243 in September 1918, 222 in March 1919 and 241 in June 1919) Purchasing power parity therefore fell, though not continuously, from 160 in June 1917 to 132 in November 1917, 124 in March 1918 and 117 in July 1919 Exchange, however, rose steadily from 1*s*. $4^{7}/_{32}$*d* in June 1917 to 1*s* $7^{31}/_{32}$*d* in July 1919

Rates for Telegraphic Transfers sold at Calcutta in the First Week of each Month 1914-25

Month	1914	1915	1916	1917	1918	1919
	s d	s d	s d	s d	s d	s d
January	$1/4^{1}/_{16}$	$1/3^{27}/_{32}$	$1/4^{1}/_{16}$	$1/4^{7}/_{32}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$
February	$1/4^{3}/_{32}$	$1/3^{27}/_{32}$	$1/4^{1}/_{8}$	$1/4^{7}/_{32}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$
March	1/4	$1/3^{31}/_{32}$	$1/4^{1}/_{8}$	$1/4^{7}/_{32}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$
April	1/4	$1/3^{29}/_{32}$	$1/4^{1}/_{32}$	$1/4^{7}/_{32}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$
May	$1/4^{1}/_{4}$	$1/3^{15}/_{16}$	$1/4^{3}/_{32}$	$1/4^{7}/_{32}$	$1/5^{31}/_{32}$	$1/5^{31}/_{32}$
June	$1/3^{15}/_{16}$	$1/3^{7}/_{8}$	$1/4^{1}/_{16}$	$1/4^{7}/_{32}$	$1/5^{31}/_{32}$	$1/7^{31}/_{32}$
July	$1/3^{31}/_{32}$	$1/3^{27}/_{32}$	$1/4^{3}/_{32}$	$1/4^{7}/_{32}$	$1/5^{31}/_{32}$	$1/7^{31}/_{32}$
August	$1/3^{15}/_{16}$	$1/3^{27}/_{32}$	$1/4^{1}/_{32}$	$1/4^{7}/_{32}$	$1/5^{31}/_{32}$	$1/7^{31}/_{32}$
September	$1/3^{13}/_{16}$	$1/3^{15}/_{16}$	$1/4^{3}/_{32}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$	$1/9^{31}/_{32}$
October	$1/3^{13}/_{16}$	1/4	$1/4^{1}/_{8}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$	$2/0^{1}/_{4}$
November	$1/3^{27}/_{32}$	1/4	$1/4^{1}/_{8}$	$1/4^{31}/_{32}$	$1/5^{15}/_{16}$	$2/0^{15}/_{16}$
December	$1/3^{13}/_{16}$	1/4	$1/4^{1}/_{8}$	$1/4^{31}/_{32}$	$1/5^{31}/_{32}$	$2/3^{15}/_{16}$

Month	1920	1921	1922	1923	1924	1925
	s d	s d	s d	s. d	s d	s d
January	2-4 1/4	1-5 3/4	1-3 15/16	1-4 5/32	1-5 5/32	1-6 1/32
February	2-8 1/2	1-4 3/8	1-3 5/8	1-4 3/8	1-4 29/32	1-5 31/32
March	2-7 1/2	1-3 3/8	1-3 9/32	1-4 3/16	1-4 5/8	1-5 31/32
April	2-3 7/32	1-3 9/16	1-3 5/32	1-4 3/32	1-4 21/32	1-5 13/16
May	2-1 3/4	1-3 5/8	1-3 7/32	1-4 5/32	1-4 13/16	1-5 29/32
June	2-1 1/4	1-3 3/16	1-3 7/16	1-4 1/16	1-4 7/8	1-5 31/32
July	1-9 11/16	1-3 3/16	1-3 23/32	1-4 3/32	1-5	
August	1-10 7/8	1-3 15/32	1-3 5/8	1-4 1/32	1-5 3/8	
September	1-10 1/16	1-4 11/16	1-3 19/32	1-4 1/32	1-5 1/4	
October	1-9 17/32	1-5 3/8	1-3 19/32	1-4 1/4	1-5 23/32	
November	1-8 3/8	1-4 9/16	1-3 21/32	1-4 11/16	1-5 31/32	
December	1-6	1-3 3/4	1-3 29/32	1-5 1/8	1-6 1/32	

In the year 1920 exchange rose to its highest point in February, and then fell rapidly Purchasing power parity was highest in March, and it had also fallen considerably by the end of the year But the fall in exchange was far greater than the fall in purchasing power parity. This is clearly brought out by the following table which compares exchange and price-parity in each month of the year, with January represented by 100.

Price-parity and Exchange in each Month of 1920
(January = 100)

1920	Price-parity	Exchange	(Silver)	1920	Price-parity	Exchange	(Silver)
January	100	100	100	July	106	77	65
February	109	115	112	August	104	81	72
March	119	111	99	September	100	78	75
April	118	96	89	October	98	76	71
May	109	91	77	November	95	72	69
June	107	89	72	December	92	64	57

From October 1920 to August 1921 the curve of purchasing power parity (see Chart) lies above that of exchange. In September 1921 exchange rose to 104, purchasing power parity being 103, after that exchange remained above purchasing power parity.

Exchange is subject to both temporary and permanent influences. Temporary factors are represented by variations in the international balance of payments, permanent factors by variations in purchasing power parity. It is claimed that the experience of the years 1920—25 showed "that the effects of changes in the purchasing power parity are powerful enough to override altogether those of changes in the balance of international payments"[1] This was the explanation of the improvement of the pound in relation to the dollar between 1920—25

The theory of purchasing power parity has been subjected to a detailed examination, among others by Dr Karl M. Obenaus[2] and Dr Andreas Revai[3] Dr Obenaus makes a study of Italian exchange between 1914 and 1919, and Dr Revai of the course of French exchange since 1914 Before proceeding to discuss the results of Indian experience, I may summarise briefly the conclusions of these writers. The rise of prices during the war was greater in Italy than in France, England or the United States of America In these circumstances the fall in the value of the lira in terms of the currencies of France, England and the United States was to be expected But, as pointed out by Dr Obenaus, there is no correspondence between the movements of prices and exchange in Italy in the second half of 1918 and the first few months of 1919 "The internal purchasing power of money," Dr Obenaus concludes, "does not by itself explain the course of the Italian exchange during the War."* Dr Obenaus then proceeds to examine other factors which have a bearing on exchange In the second half of 1914 Italian exchange remained near gold parity as the trade balance was comparatively favourable to Italy, and large sums of money were brought into Italy by emigrants returning to their country immediately after the outbreak of War. Exchange began to rise in the spring of 1915 owing to the increasing imports of war materials The rise of exchange† was checked in the summer of 1916 owing to rumours of peace and the export of gold from Italy Exchange rose suddenly in March 1917 owing to the outbreak of the Russian revolution which endangered the cause of the Allies, but the entry of the United States into the war exercised a favourable influence on exchange The appreciable rise in November 1917 was due to the defeat at Isonzo. The fall in exchange in the latter half of 1918 was due to the decisive victories of the Allies, decrease in imports for military purposes, the grant of large foreign credits to Italy, and lastly, large purchases of lire in foreign countries. The rise in exchange which commenced in April 1919 was caused by the exhaustion of foreign credits and the heavy imports of foreign goods required for the reconstruction of peace time economy.

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[1] "*The Statist*" *London CV (1925 I), p 834* —" The great rise since Feburary, 1920, in the value of the pound in relation to the dollar can never be accounted for by reference purely to the British and American balances of payments Indeed, the relevant statistics would show, even when full account is taken of America's huge foreign lending, that the pound ought to have depreciated over those years in relation to the dollar instead of appreciating More recently, the annual buying season for dollars, during which the balance of payments has been undoubtedly against this country, was not able to prevent a rise in sterling in the autumn of last year The true explanation of the rise in sterling is of course, that the purchasing power parity between sterling and the dollar has moved in favour of sterling since the early months of 1920—that, despite a substantial net rise in the internal purchasing power of the dollar since then, the internal purchasing power of sterling has risen even more—and this, too, although the balance of payments may have been on the whole against Great Britain and in favour of America "

[2] K M Obenaus, *Die italienischen Wechselkurse waehrend der Jahre 1914-1919* Wurzen 1922.

[3] A Révai, *Die auslaendischen Wechselkurse in Frankreich seit 1914.* **Muenchen 1925.**

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* K M Obenaus, p 25

† The rise of Italian exchange means more lira per £ etc , or a fall in the purchasing power of the lira in terms of foreign currencies

Dr Revai's interesting study shows that while purchasing power parity and French exchange ran parallel in 1914, in 1915 purchasing power parity rose above exchange and remained so till the beginning of 1919 In the middle of 1919 the two coincided, but towards the end of the year exchange rose above purchasing power parity The two met again in the beginning of 1922, but they diverged in the middle of the year, exchange rising above the price parity "Purchasing power parities," says Dr. Revai, "did not exactly coincide with exchange , there were often divergences in the one direction or the other, for the understanding of which it is necessary to consider the relation between supply and demand in the exchange market "[1] Dr Revai then refers to the factors which influenced French exchange during the War and subsequent years, such as the grant of foreign credits to France, the unfavourable balance of payments during the War, political developments in France and speculative purchases of francs caused by changes in the political situation He concludes his examination as follows " The conclusion may be drawn from this comparison that so long as the supply of foreign means of payment preponderates, exchange is lower than purchasing power parities When, however, demand for foreign means of payments preponderates, exchange is higher than purchasing power parities The comparison of French exchange with purchasing power parities and with market conditions confirms the view that the two theories do not exclude, but supplement each other, and that movements of exchange can be satisfactorily explained only by a combination of the two theories "[2]

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[1] A Révai, p 99 sq

[2] Ibid, p 101

Indian experience shows that the "permanent" or the "more fundamental" influences, that is purchasing power parities, offer very little or no explanation of the fluctuations of Indian exchange after 1914, and that this explanation is to be found in "temporary" influences, *viz*, India's balance of payments and the fluctuations in the price of silver Indian exchange rose during the War because of the favourable balances of trade, and the heavy demand for Indian rupees for other reasons The invisible exports and imports of India (freights, insurance, interest, transfer of profits, movements of capital, etc.) cannot be valued accurately, but the most important item in India's balance of payments is the balance of trade Before the War the balance of trade was generally in India's favour The average net exports from India in 1909-10 to 1913-14 amounted to a little over £52 millions The immediate effect of the War was to reduce net exports, which in 1914-15 amounted to only £29,108,000 and in 1915-16 to £44,026,000 but in the last three years of the War, while imports had declined heavily, exports increased, so that net exports in 1916-17, 1917-18 and 1918-19 exceeded the average of the five pre-war years

Exports and Imports 1916-17 to 1918-19 (Thousands of £)

Year	Exports	Imports	Net exports
1916 17	160,591	99 748	60 843
1917 18	161,700	100,280	61,420
1918-19	169,230	112,690	56 540

At the same time India formed the base of military operations in Mesopotamia, Persia and East Africa, and the Government of India provided funds for meeting the cost of these operations and civil expenditure in occupied territory. In addition the Government of India undertook to finance purchases made in India by certain Dominions and Colonies, and to assist American buyers of Indian produce in 1917-18 and 1918-19 " These exceptional disbursements," says the Report of the Indian Currency Committee of 1920, "created a heavy additional demand for Indian currency"[1]. While the demand for Indian rupees had increased considerably, the imports of gold and silver declined, total imports in 1914-15 to 1918-19 amounting to only £35,984,000 as against £120,242,000 in the five pre-War years Considering the abnormal increase in the demand for rupees and the decline in the imports of gold and silver into India, the rise of exchange was inevitable[2]. While exchange rose continuously, purchasing power parity, which had risen to 160 in June 1917, fell to 117 in July 1919, as we have seen

It is necessary to refer to another " temporary " influence which, however, profoundly affected the course of Indian exchange in 1918—20 In August 1917, as we have seen, the price of silver rose above the bullion par of the rupee, and the rupee ceased to be a .token coin In September the United States instituted control over the trade in silver and prohibited the export of the metal except under license The effect of these measures was to check the rise of silver prices and between October 1917 and April 1918 the London price of silver varied between 41¾*d* and 49½*d.* per standard oz. Following on the passing of the Pittman Act in April 1918 in the United States, the Canadian and the British Governments fixed a maximum price for silver corresponding to the American maximum, so that between May 1918 and April 1919 the London price of silver ranged beween 47¾*d* and 50*d* per standard oz When, however, control over the silver market was removed in May 1919, the price of silver, owing to the strong Chinese demand, rose rapidly

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[1] *Report p 6*

[2] "The abnormally large balance of trade in favour of India had resulted in the sellers of exchange greatly out-numbering the buyers, and, there being practically no imports of gold to fill the gap, the former were at the mercy of the latter On the one hand, exporters were only too ready to pay high rates if they could thereby get their bills purchased, on the other hand, importers were in the position of being able to effect their remittances at rates which, as businessmen they could scarcely refuse to take advantage of " Report on the Operations of the Currency Department for the year 1916-17. Calcutta. P. 8.

The rise in the price of silver rendered the Indian currency system impracticable, and it compelled the Secretary of State for India to raise the rate for Council Drafts by successive stages to 28*d* in December 1920 The rise in the rate was dictated by the rise in the price of silver and had nothing at all to do with purchasing power parities The following table shows the market rates of exchange and the bullion value of the rupee from April 1918 to March 1921

[*Table.*

Comparative Statement of Market Rates of Exchange and of the Bullion Value of the Rupee from April 1918 to March 1921 (in d)[1]

	1918		1919		1920		1921	
	Rate of exchange T Ts	Value of silver contents of the Re	Rate of exchange T Ts.	Value of silver contents of the Re	Rate of exchange T Ts	Value of silver contents of the Re	Rate of exchange T Ts	Value of silver contents of the Re
1st January			17 969	18 000	27 875	28 196	17 250	15 514
15th ,,			17 969	18.000	27 937	29 357	17 375	15 143
1st February			17 969	18 000	32 500	31 355	16 250	12 820
15th ,,			17 969	17 791	31 500	30 890	16 468	12 960
1st March			17 969	17 744	31 000	31 214	15 375	12 077
15th ,,			17 969	17 744	27 750	26 106	15 562	12 448
1st April	16 969	16 955	17 969	18 418	28 000	26 802		
15th ,,	17 969	17 466	17.969	18 163	27 812	25 270		
1st May	17 969	18 302	17 969	18 139	27 312	23 690		
15th ,,	17 969	18 163	19 969	20 021	24 500	21.544		
1st June	17 969	18 163	19 969	19 742	25 250	21 414		
15th ,,	17 969	18 163	19 969	20 345	22 000	16 351		
1st July	17 969	18 139	19 969	19 696	20 750	18 998		
15th ,,	17.969	18 139	19 969	20 021	21 875	19 928		
1st August	17 969	18 139	21 969	20 717	22 687	21 182		
15th ,,	17 969	18.139	21 969	21 925	22 500	22 064		
1st September	17 969	18 395	21 969	21 925	22 250	21 414		
15th ,,	17 969	18.395	21 969	22 713	22 500	22 575		
1st October	17.969	18 395	24 250	23 782	21 375	21 925		
15th ,,	17 969	18.395	24 187	23 691	19 500	19 928		
1st November	17 969	18 395	24 250	24 341	19 375	19 645		
15th ,,	17 937	18 116	24 750	25 176	19.875	19 091		
1st December	17 937	18 116	27 125	27 174	18 375	16 583		
15th ,,	17 969	18.000	28 062	29 311	17 125	15 840		

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[1] Report on the Operations of the Currency Department for the year 1920-21, p 12

The close correspondence between the bullion value of the rupee and the market rate of exchange between 1st April 1918 and February 1920 will be noted. The fall in exchange between 15th February 1920 and 15th December coincided with the fall in the bullion value of the rupee We have seen that as compared with January 1920 exchange fell 36 per cent in December, the fall in the price of silver during the same period amounted to 43 per cent. The price of silver on 10th December was as low as 38⅞*d.*, at the end of December the quotation was 40⅞*d* Exchange and the bullion value of the rupee now separated, and the low exchange in 1921 and 1922 was not due to the fall in the price of silver but to other causes It must be admitted that one of the causes which were responsible for the rise of exchange in 1917—20 was the rise in the price of silver Another and still more important factor, as we have seen, was India's favourable balance of trade In 1919-20 exports of Indian merchandise reached a total of Rs 327,03 lakhs, while imports amounted to Rs. 208,00 lakhs, net exports thus amounting to Rs 119,03 lakhs

Indian Balance of Sea-borne Trade in Merchandise from 1920-21 to 1924-25 (Lakhs of Rs)

Private trade	1920-21	1921 22	1922 23	1923-24	1924 25
Exports of Indian merchandise	240,01	231,38	299,16	348,84	384,85
Re exports of foreign merchandise	18,04	14,06	15,16	13,07	13,51
Imports of foreign merchandise	335,60	266,34	224 31	217,03	243,18
Balance of trade in merchandise*	−77,55	−20,90	+90,01	+114,88	+155,18

As against net exports from India in 1919-20 of Rs. 119 crores there were net imports of Rs. 78 crores in 1920-21 and of Rs 21 crores in 1921-22. The balance of trade thus turned against India and exchange fell. The causes of the reaction which started in 1920-21 are well-known. Agricultural conditions in 1920-21 were unfavourable and agricultural production was below the normal. Exports were also checked by the glut in the world's markets of which evidence is furnished by the fall in prices While exports declined, imports increased

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* (+) indicates net exports and (—) net imports

The imports were partly stimulated by the currency policy of the Government, which, following the recommendations of the Babington Smith Committee, attempted, though without success, to maintain exchange at the level of 2*s* gold But after several years of shortage in the supply of manufactured goods an increase in imports after the War was to be expected India had prospered during the War and when, after the War, it became possible to buy more foreign goods, she did so, particularly because exchange was tempting The depression which started in 1920-21 continued throughout 1921-22, and became very acute. "The year 1920-21," says the official Review of the Trade of India for 1921-22, " was one of sharp contrasts between the boom conditions of the early months and the liquidation of the latter part of the year, but 1921-22 was a year of unrelieved depression, of hand-to-mouth buying by the consuming trades and of resigned patience on the part of the traders and their financiers " Prices continued to fall heavily in the world's markets and the violent fluctuations of the European exchanges made matters worse In these circumstances it is not surprising that Indian exchange should have fallen below 1*s* 4*d*

From what has been said above it should be clear that the relation between exchange and prices is not a simple one The external purchasing power of money in terms of foreign currencies may remain stable when prices within the country are rising; the external purchasing power may decrease heavily while internal purchasing power remains practically the same (Brazil, 1835—44).* And when external and internal purchasing powers are rising or falling together, the extent of the rise or fall is not always the same in the two cases. The history of money in Europe during and after the War provides many illustrations of this lack of precise adjustment between the price movement and the exchange movement For example, during the War, the depreciation of the mark and the crown in terms of foreign currencies was less than the decrease in the internal purchasing power Even in July 1920, while the price of Swiss francs had increased 29 times the pre-War price, the cost of living had increased 37 times in Hungary and 52 times in Austria. In October of the same year, however, the rise in the price of Swiss francs in Hungary exceeded the rise in the cost of living, and there was a similar situation in Austria in January 1924 †

We have seen that in the period 1895—98 Indian exchange should have fallen but for the financial measures adopted by the Government Further, between 1899—1914 exchange remained stable, except in 1907-08, in spite of the more rapid rise of prices in India than in other countries This would show that exchange may be kept stable by artificial means, whether prices are rising or falling A good illustration is furnished by the Russian Cherwonez in 1923. While its purchasing power in terms of the English pound and the American dollar remained fairly stable, its internal purchasing power in terms of goods fell "This circumstance", says Markoff, "is extraordinarily interesting and important. It shows that so far as exchange is concerned, favourable circumstances exist, which exert no influence on the maintenance of the internal purchasing power ."* Foreign trade is a state monopoly in Russia and exchange can be kept stable by increasing exports and restricting imports, or by means of a favourable balance of trade. But, at the same time, owing to causes affecting the supply of money, or of goods, prices may rise continually within the country In the case of Russia the rise of prices in 1923 is attributed to inflation. Even when foreign trade is not a state monopoly, favourable balances of trade and prompt action on the part of Government when exchange shows signs of weakening, backed by strong reserves of gold, may prevent exchange from falling, when, on account of the increase in the supply of token money (which is not convertible into gold for internal purposes), prices are rising rapidly. Such is the experience of India

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* See the report on the "Depreciation of the Currency in Brazil, showing the effect on prices and wages," published as an appendix to the evidence given before the Indian Currency Committee of 1898

† E Hantos, *Das Geldproblem in Mitteleuropa*, Jena 1925, p 54.

The theory of purchasing power parity as an explanation of exchange fluctuations when inflated paper currencies take the place of the gold standard, has the merit of simplicity But as we have seen, it is of very little use in explaining the fluctuations in the exchange value of the rupee after 1914 Any one who started to deduce Indian rates of exchange from the relation of prices in India and England would certainly fall into error It may be objected that India's favourable balances of trade during the War were themselves due to the silent action of price differences between India and England—that is, English prices having risen more rapidly than Indian prices, India exported more than she imported. This explanation is not very convincing. Imports into India were not restricted by the rise of prices in England but by the pre-occupation of Western countries with the war and the shortage of shipping. The shortage of manufactured goods in India during the War was so great that she should have gladly imported more and at higher prices, if goods had been available. Further, the rise in the price of silver was a factor wholly unconnected with puchasing power parities between India and England, and yet, as we have seen, in the main it accounts for the rise in Indian exchange in February 1920 and the fall during the course of the next ten months

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* A. P Markoff, Der Goldverkehr in Sowjetrussland Berlin [1924] p 7

CHAPTER XVI

MOVEMENT OF THE POPULATION.

The first regular census of the population of India was taken on the 17th February, 1881 Previous to that date there had been enumeration of the population in the majority of the Provinces and States of India, but this enumeration had been effected at different times, and by independent agencies Since 1881, four more censuses have been taken, in 1891, 1901, 1911 and 1921 The growth of population between 1872 and 1921 is shown by the following statement —

Census of	Population	Variation per cent. since previous census
1872	206,162,360	—
1881	253,896,330	+ 23 2
1891	287,314,671	+ 13 2
1901	294,361,056	+ 2 5
1911	315,156,396	+ 7 1
1921	318,942,480	+ 1 2

According to these figures the increase in population in 1921, as compared with 1872, was 54 7 per cent, or the average increase since 1872 was at the rate of about 5·5 per cent. The real increase, however, has been considerably less than this figure owing to (*a*) the additions of area and population included at each census, and (*b*) the progressive increase in the accuracy of enumeration from census to census Allowance is made for these factors in the following table :—

Period	Increase due to		Real increase of population Millions	Total	Rate per cent of real increase.
	Inclusion of new areas Millions	Improvement of method Millions			
1872-81	33·0	12·0	3·0	48·0	1·5
1881-91	5·7	3·5	24·3	33·5	9·6
1891-01	2·7	·2	4·1	7·0	1·4
1901-11	1·8	—	18·7	20·5	6·4
1911-21	·1	—	3·7	3·8	1·2
Total	43·3	15·7	53·8	112·8	20·1

Thus the real total increase of population in 49 years between 1872 and 1921, was about 54 millions, or 20·1 per cent.

It will be seen that the rate of increase in the different periods was very unequal. The figures show a period of comparatively rapid increase following one of an almost stationary population. If a curve were constructed to illustrate the movement of the population, it would be seen to rise and fall alternately. What is the explanation of this peculiar movement of the Indian population?

The growth of population in India is determined not merely by the relation between normal birth and death rates, but by abnormal causes which affect this relation, as famine and disease.

The famine of 1876-78 falls in the first period. This famine severely affected Southern India, particularly the Madras Presidency, while its effect was felt generally throughout the country. The severity of the famine in Madras may be judged from the fact that in five districts of the province where famine was intense, the population in 1881, as compared with 1871, decreased 25·12 per cent., in two districts, where it was moderate, the decrease in population was 3 62 per cent, while in Shimoga district, where it was slight, the percentage increase was ·15.

The effect of a famine in checking the growth of numbers is not confined to the famine zone The resulting high prices and scarcity check rapid reproduction in districts which have not been affected by famine "It may safely be accepted," wrote the Census Commissioner for 1881, "that when food is scarce there are fewer births"—this may be due to prudence, deliberate or instinctive, or physiological causes. "It remains stamped on the age tables," goes on the Census Commissioner, "that in 1876-78 very much fewer children were begotten throughout the (Madras) Presidency than in previous or subsequent years, and this is true of the so-called non-famine districts, although to an obviously slighter extent than of the famine districts."*

The period 1881—1891 was one of recovery. It is generally seen that the birth-rate rapidly increases after any period of exceptional mortality, due to war, diseases or famine Famine mortality is high among the very old, the very young and those of a weak constitution If then a period of famine is followed by a period of good crops, the population should increase rapidly as it contains an unusually high proportion of healthy persons at the reproductive ages

The real increase of population in the decade 1881—1891 was 9 6 per cent This is the only decade between 1872 and 1921 which was free from any exceptional calamity.

Mr Baines, the Census Commissioner for 1891, had prophesied that the rate of increase in the period 1881—91 was not likely to be maintained. After the good seasons of this decade he expected a check to the growth of population on account of famine As it turned out, agricultural conditions in the decade 1891-1901 were adverse. There was scarcity over a considerable area in Madras and Bombay in 1891-92, and parts of Behar were also affected There were extensive crop failures in 1895 in the southern districts of the United Provinces, while in the following year famine conditions prevailed in the United Provinces, Central Provinces and Berar and parts of Madras, Bombay, Bengal, the Punjab, Rajputana, Central India and Hyderabad At the heels of this famine there followed the famine of 1899-1900 which was even more disastrous

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* *Census Report 1881, p. 457,*

This period also saw the appearance of plague in Bombay in 1896 The epidemic rapidly spread in the Bombay Presidency and in some other parts of India, and by the date of Census had caused a mortality of nearly a million

Plague and famine checked the growth of population As the Census Commissioner for 1901 remarks "In a period which has witnessed two great famines of the century and the appearance of a new and deadly disease the wonder is not that the pace at which the population has grown is less than it was during the previous ten years, when the rate of progress was more rapid than usual, but that there should have been any increment at all"*

The next decade, 1901—1911, was free from serious widespread famines, though crop failurs occurred over a wide area in 1907, extending from Behar to the Punjab and Bombay, and famine conditions prevailed in the United Provinces and in a few districts elsewhere This period has been characterised as one of "moderate agricultural prosperity" for the country as a whole

The real increase of population in this decade was 6·4 per cent. It would have been greater but for disease. Malarial fever took a heavy toll of mortality in the irrigated tracts of Eastern and Central Punjab, and the Ganges-

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* *Census Report, 1901, p 84.*

Jamuna Doab in the United Provinces, where in 1908 alone the reported mortality from "fevers" was nearly two millions. The Punjab, the United Provinces and Bombay suffered severely from plague, the total plague mortality was estimated to be 6·5 millions, of which over one-third occurred in the Punjab.

The outstanding feature of the decade, 1911—1921, was of course the influenza epidemic. The War falls in this period, but its effect on the growth of numbers was negligible The actual number of death casualties among the officers and ranks of Indian army units and labour corps was 58,238 The maximum number serving out of India in combatant and labour units at any one time between 1914 and 1919 was approximately Indian troops 250,000, labour corps 230,000, total 480,000, the number about the time of the census was troops 105,000, labour corps 20,800, total 125,800

Economic conditions were favourable till 1917 The monsoon of 1918 was feeble, and that of 1919 was not much better. The outturn of the chief food crops declined heavily and prices rose Influenza came at a time of widespread crop failures It affected every part of India and "wiped out in a few months practically the whole natural increase in the population for the previous seven years"

The number of deaths due to influenza in the area under registration was about 7,100,000 in 1918 and 1¼ millions in 1919, giving a total recorded mortality of 8½ millions. But it is certain that the total influenza mortality was much greater than this, for on account of the complete break-down of the reporting staff the registration of vital statistics was suspended in 1918, and when later the figures were reconstructed, there were many omissions, particularly as regards women. The figure given above also does not take account of the mortality in areas where there was no registration, and thus neglects one-fourth of the total population On the whole it was estimated by the census Commissioner that the total mortality from influenza was between 12 and 13 millions

The epidemic affected rural districts more severely than urban districts In the Punjab the mortality in urban areas was 36 per mille as against 51 per mille in rural areas Mortality was under 5 per cent. among Europeans, about 6 per cent among Indians of the higher classes who were able to obtain medical attendance, and over 50 per cent among the people in rural districts The heavy mortality in rural areas was due to lack of medical assistance and improper and inadequate provision of diet, clothing, etc., in illness *

The Punjab suffered severely from influenza but it still suffered less than the United Provinces and the Central Provinces At the end of the decade, the population of the United Provinces was found to have decreased 3 1 per cent and the Central Provinces 0 3 per cent. as compared with 1911. On the whole the population of India increased by 1 2 per cent

How does the rate of growth of the population of India compare with that of other countries?

For European countries reliable statistics of population are available since 1800 It is well known that the population of Europe was increasing very slowly before

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* "From the middle of October to the middle of November," says the Census Superintendent for the Punjab, "the state of the Province beggars description Hospitals were choked, dead and dying lay by the sides of the roads, burial grounds and the burning ghats were strained beyond their capacity and corpses lay awaiting burial and cremation Terror and confusion reigned supreme, the postal and telegraph services were disorganised and a harrassed and depleted medical service struggled valiently, but ineffectually to cope with the disease During this period large numbers of the educated classes earned the gratitude of the sufferers by devoted self-scarifice and social service, while medical students throughout the province rendered every assistance within their power." *Punjab Census Report* I, 1921, p. 60.

the 19th century. The growth of the population was checked by epidemics and war. With the beginning of the 19th century the conditions completely changed and the population began to increase rapidly. It is estimated that the population of Europe grew from 187 millions in 1800 to 447 millions in 1910, an increase of 267 millions in 110 years, the rate of growth being 7 9 per cent per annum.

The rate of growth became particularly rapid about the middle of the 19th century. For example, the population of England and Wales increased from 9 2 millions at the beginning of the 19th century to 18 millions in 1850, 32 5 millions in 1900 and 36 millions in 1911. Ireland shows a decrease, but this is due to special causes But even the Irish population increased from 5.5 millions in 1800 to 8,295,000 in 1845, after which a steady decrease in numbers began so that the population was reduced to 4,390,000 in 1911 Emigration wholly accounts for this decrease. The population of Germany increased from 24 5 millions in 1800 to 35 millions in 1850 and about 65 millions in 1910. The figures for Russia are not absolutely reliable, but there is no doubt that the population of Russia has increased very rapidly since 1800

It is interesting to note that at the beginning of the 19th century the population of France exceeded that of any European country with the exception of Russia. Even in 1846 France had a population of 34,546,975, as compared with Germany's 34,396,055 But four years later (in 1850) the German population exceeded the French slightly, and since then the difference has steadily increased. In 1910 Germany had a population of about 65 millions as compared with France's 39,192,000.

The following table compares the rate of growth of the population in India with that in other countries between 1870 and 1910. As we have seen, earlier figures for India are not available.

Figures in thousands

	1870	1910	Increase per cent
India	265,056	315,156	18 9
Germany	40,850	64,926	59
Austria	20,600	28,571	39
Hungary	15,620	20,886	33 7
Italy	26,650	34,671	30
Spain	16,330	19,951	22
France	36,765	39,192	6 6
Belgium	5,021	7,423	47 8
Netherlands	3,616	5,858	62
Denmark	1,799	2,757	53 2
England and Wales	22,800	36,070	58 2
Russia	75,200	130,820	73.9
Roumania	5,000	7,235	44 7
Europe	307,655	447,477	45.4

Between 1880 and 1910 the population of Japan increased about 42 per cent, Canada 98 per cent, New Zealand 106 per cent and the United States of America 83 per cent.

The growth of population, it will appear, was most rapid in overseas countries which receive immigrants, like the United States and the British Colonies, it was slowest in France. With the exception of France the rate of growth in India was less than that of any of the countries mentioned above.

The growth of population in the belligerent countries of Europe was suddenly checked by the War, the War also affected the rate of growth in neutral countries. It affected the growth of numbers both directly and indirectly. Indirectly the war caused a fall in the birth rate and in the number of marriages, and an increase in the death rate, apart from the direct losses due to war casualties.

The total number of death casualties in the belligerent countries of Europe,* Great Britain and British Colonies, due to the War, was a little over 6 millions The total decrease in numbers due to the decrease in births and increase in deaths among the civil and military population, from all causes, amounted to about 13 millions, or about 7 per cent of the total population of the United Kingdom, Germany, Fance and Italy. Germany suffered most (8·5 per cent) and Great Britain and Ireland least (3·8 per cent)

The percentage increase or decrease in the population of various countries in recent years is shown below

	Increase (+) or decrease(-) per cent
Germany, 1910-19	+ 3·5
Belgium, 1910-21	+ ·5
France, 1911 21	- 4·8
Italy, 1911-21	+ 7·5
Great Britain, 1911-21	+ 4·7
Denmark, 1911-21	+ 12·6
Holland, 1909 20	+ 16·8
Norway, 1910-20	+ 10·6
Sweden, 1910 20	+ 6·9
Switzerland, 1910 20	+ 3·2
Canada, 1911-21	+ 21·7
Australia, 1911-21	+ 21·8
New Zealand, 1911 21	+ 21·8
United States of America, 1910-20	+ 14·9

When we compare the growth of population in India in the decade 1911-1920 with that in other countries it is found that in spite of the abnormal conditions existing in Europe and the direct and indirect effects of the War, Germany, Italy, Great Britain and each of the larger neutral States of Europe show a larger increase in population than India (1.2 per cent) As we have seen, the effect of the War on the population of India was so slight as to be negligible, but disease was more terrible in its consequences for the population of India than the War for Europe The number of deaths by influenza alone in 1918-19 far exceeded death casualties of belligerent countries during the War, it exceeded the total losses suffered by Belgium, Germany, Austria, Hungary, France, Italy and Great Britain during 51 War months on account of the fall in the birth-rate (a little over 11 millions), and it about equalled the total losses of Germany, France, Italy and Great Britain on account of the decrease in births during War months, and the increase in deaths among the civil as well as the military population from all causes during 1914—18 (about 13 millions)

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* Belgium, Germany, Austria, Hungary, France and Italy

We have to remember that the growth of population of the five European belligerents during the War (with the exception of Italy) was much below the normal The difference between the actual growth and the normal growth is estimated to be 8 9 per cent for Germany, 10 2 per cent. for Belgium, 6.4 per cent for France and 5 per cent. for Great Britain

The War was an exceptional calamity which suddenly checked the growth of population in Europe. Disease in India, however, cannot be regarded as an exceptional factor During the past 40 years only one decade, 1881—91, was free from disease In every other decade plague or "fevers" have claimed a large number of victims.

CHAPTER XVII

BIRTH AND DEATH RATES AND MEAN DURATION OF LIFE.

India is a country of high birth and death rates. It may be stated as a rule that a high death rate goes with a high birth rate. The birth and death rates and the excess of births over deaths for the more important countries are shown by the following table —

Birth and Death Rates Per 1000 of the Population

	Births		Deaths		Excess of birth over deaths	
	1913	1926	1913	1926	1913	1926
India	39.4	34.8	28.7	26.8	10.7	8.0
Germany	27.5	19.5	15.0	11.7	12.4	7.8
Switzerland	23.1	18.2	14.3	11.7	8.8	6.5
Holland	28.2	23.8	12.3	9.8	15.9	14.0
England and Wales	24.1	17.8	13.8	11.6	10.3	6.2
Sweden	23.2	16.9	13.7	11.8	9.5	5.1
France	18.8	18.8	17.7	17.5	1.1	1.3
Spain	30.4	29.9	22.1	19.0	8.3	10.9
Italy	31.7	27.2	18.7	16.8	13.0	10.4
Japan	33.2	31.8	19.4	19.2	13.8	15.6
Egypt	43.6	43.2	26.6	26.2	17.0	17.0

(Stat Abs. 1917-18 to 1926-27 and HWB)

It will be seen that among the countries mentioned in the table India had the highest death rate, while her birth rate was lower than that of Egypt only.

In European countries both birth and death rates have been falling for a long time, in India the tendency is not so clear. The ratio of births and deaths per 1000 of the population in India in certain years is shown below.—

Birth and Death Rates in India.

	Births per 1000	Deaths per 1000
1885	36 74	26 37
1895	34 57	28 94
1905	39 14	36 14
1915	37 82	29 94
1920	32 98	30 84
1921	32 20	30 59
1922	31 85	24 02
1923	35 06	25 00
1924	34 44	28 49
1925	33 65	24 72
1926	34 77	26 76

(Stat Abs)

The figures show no marked tendency towards a fall It is possible that the registration of births as well as deaths in the earlier years was defective But there has been no change in the customs relating to marriage, and in the absence of such change, a marked fall in the birth or death rates is extremely improbable

Countries with a high birth rate have a high rate of infant mortality Infant mortality in India per 100 of the population in certain years is shown below —

Infant Mortality in India per 100 of the Population.

	Males	Females
1913	19.25	19 69
1917	21 15	19 84
1918	27 37	25 97
1919	22.81	22 04
1920	20 13	18 81
1921	20 52	19 01
1922	18.32	16 64
1923	18 26	16 80
1924	19 67	17 99
1925	18 12	16 70
1926	19 72	18 02

Roughly about one-fifth of the children born die before reaching the age of one year Infant mortality per cent in the leading European countries in 1913 and 1925 is shown by the following statement —

Infant Mortality in Europe *

	1913	1925		1913	1925
Germany	15.1	10.5	France	11.2	8.9
England & Wales	10.8	7.5	Italy	13.8	11.9
Sweden	7.0	5.5	Spain	15.5	13.6
Holland	9.1	5.0	Hungary	20.1	16.7

Infant mortality shows no definite signs of decreasing in India.

The figures for 1925 were indeed lower than those for 1913 , but in 1926 there was a substantial rise in the ratio for both males and females as compared with that for the preceding year Excepting the years 1918 and 1919, the ratio of deaths for female infants was lower in every year as compared with that for 1913 This is satisfactory so far as it goes

The lowest rate of infant mortality is without doubt that of Zurich in Switzerland, 3 per cent—a matter on which Zurich was justly congratulated by the *Verein fuer Sozialpolitik* on the occasion of its general meeting in Zurich in September 1928.

The Mean Duration of Life

A very good index of economic prosperity and improvement in the general conditions of life, particularly those of health, is increase in the duration of life, or the mean expectation of life In the leading countries of Europe this expectation of life has increased during the past 40 or 50 years, as is shown by the following statement —

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* (HWB)

Average Expectation of Life (in years.)

	Period	Male at age			Female at age		
		10	30	80	10	30	80
Germany	1871-80	46 51	31 41	4 10	48 18	33 07	4 22
	1901 10	51 16	34 55	4 38	53 35	36 94	4 65
Switzerland	1876 81	46 90	31·70	4 10	48 20	33 20	4 20
	1901 10	50 34	33 80	4 27	51 98	36 10	4 51
Italy	1876 87	47 85	33 50	4 60	47 25	33 40	4 50
	1901 10	51 44	35 94	4 06	51 53	36 58	4 11
France	1877 81	48 25	33 83	4 83	49 75	35 50	5 00
	1898 03	49 75	34 35	4 87	52 03	36 93	5 38
England and Wales	1871 80	47 60	32 10	4·79	49 76	34 41	5 20
	1901 10	51 81	34 76	4 86	54 53	37 36	5 36
Holland	1870 79	48 00	33 70	4 69	48 70	34 33	4 70
	1900 09	54 30	37 80	4 90	55 40	38 80	5 20
Sweden	1871 80	50 30	35 10	4 60	52 90	37 50	5 20
	1901 10	54 03	38 57	5 22	55 58	40 20	5 64

(Von Mayr II, 429 and HWB)

The expectation of life at birth in these countries has increased as follows —

Mean Expectation of Life at Birth, (in years)

	Years	Male	Female
Germany	1871 81	35 58	38 45
	1901 10	44 82	48 33
	1924 26	56 0	58 8
Switzerland .	1876 81	40 60	43 20
	1901 10	49 25	52 15
Italy	1876 87	35 10	35 40
	1901-10	44 24	44 83
France	1877 81	40 83	43 42
	1898 1903	45 74	49 13
England and Wales	1871 80	41 35	44 62
	1901-10	48 53	52 38
England	1920-22	55 62	59 58
Holland	1870-79	38 40	40 70
	1900 09	51 00	53 40
	1910-20	55 1	57 1
Sweden	1871-80	45 30	48 60
	1901-10	54 53	56 98
	1911-15	56 49	59 24
Scotland ...	1871 80	40 95	43 80
	1891-1900	44 68	47 44
	1921	53 08	56 35

(Von Mayr II, 429 and HWB)

The figures for different countries cannot be compared with one another as the periods to which they relate are different in different cases Again, in the case of the same country the figures are not always averages for the same number of years. It is however clear that the mean duration of life in these countries has increased. This is a well-known and undisputed fact

For India the mean expectation of life at decennial ages in 1891, 1901 and 1911 was as follows —

Table showing comparative expectation of life at decennial ages, as deduced from the results of the 1891, 1901 and 1911 censuses respectively, with corresponding values for England

I—MALES.

Age.	ALL INDIA			ENGLAND	
	1891	1901	1911	1901	1911
0	24·59	23·63	22·59	44·07	46·04*
10	35·46	34·73	33·36	49·65	52·35*
20	29·24	28·59	27·46	41·04	43·67
30	23·66	22·90	22·45	33·06	35·29
40	18·75	17·91	18·01	25·65	27·27
50	14·28	13·59	13·97	18·89	19·85
60	10·12	9·53	10·00	12·90	13·38
70	6·48	5·80	6·19	8·02	8·25
80	3·65	3·07	3·06	4·40	4·64
90	1·69	1·23	1·15	2·32	2·37

II—FEMALES.

Age.	ALL INDIA			ENGLAND	
	1891	1901	1911	1901	1911
0	25·54	23·96	23·31	47·70	50·02*
10	34·40	33·86	33·71	51·98	55·02*
20	29·28	28·64	27·96	43·45	46·36
30	24·69	23·82	22·99	35·43	37·84
40	20·20	19·12	18·49	27·81	29·65
50	15·59	14·50	14·28	20·63	21·87
60	10·87	10·02	10·11	14·08	14·81
70	6·80	5·98	6·22	8·74	9·13
80	3·76	3·12	3·06	4·84	5·10
90	1·75	1·64	1·10	2·68	2·55

*Estimated values

[*Actuarial Report on the Census of* 1911, *see Census of India I, Part I,* 168-69]

On account of differences in climate, social and other conditions it is not surprising that the expectations for male as well as female lives for India were at all ages materially below those deduced from English lives But it is remarkable that the expectations of life in the case of both males and females in 1911 were at all ages below those of 1891. It is also noteworthy that the expectations for female lives in India at all ages were only slightly higher than for male lives, in England the difference was greater

As regards any increase or decrease in the duration of life in 1921 as compared with 1911, we have no information. Mr. Meikle, Actuary to the Government of India, who wrote the actuarial report on the Census of 1921, did not consider his material reliable and therefore did not calculate the expectation of life The rates of mortality for ages between 5 and 65 as calculated by him for 1901, 1911 and 1921 are as follows

Rates of mortality estimated after the censuses of 1901, 1911, and 1921 for Bengal, Bombay, United Provinces, Punjab, Madras and Burma (all religions weighted average)

MALES

Age	INDIA			Carlisle 1879 81	England and Wales 1881 90	Scotland 1911 21	British Annuitants 1900 20
	1901	1911	1921				
5	2·67	2·75	2·52	1·78	·56	·43	·18
10	1·24	1·25	1·22	·45	·21	·18	·18
15	1·17	1·32	1·26	·62	·28	·27	·27
20	1·43	1·69	1·42	·71	·42	·36	·34
25	1·69	2·03	1·68	·73	·54	·43	·40
30	2·02	2·37	2·10	1·01	·65	·50	·47
35	2·49	2·77	2·67	1·03	·74	·60	·55
40	3·01	3·24	3·33	1·30	·87	·72	·66
45	3·64	3·72	4·00	1·48	1·05	·94	·80
50	4·30	4·28	4·72	1·34	1·32	1·27	1·01
55	5·09	4·98	5·46	1·79	1·76	1·87	1·40
60	6·25	6·00	6·31	3·35	2·51	2·87	2·09
65	8·14	7·57	7·43	4·11	3·71	4·22	3·31

FEMALES

Age	INDIA			Carlisle 1879-81	England and Wales 1881 90	Scotland 1911-21	British Annuitants 1900-20.
	1901	1911	1921				
5	2 91	2 62	2 78	1 78	51	43	18
10	1 49	1 29	1 55	45	21	18	·18
15	1 48	1 34	1 57	62	33	26	20
20	1 72	1 70	1 73	71	16	36	25
25	2 00	2 00	1 92	73	56	13	33
30	2 21	2 31	2 24	1 01	66	51	42
35	2 46	2 66	2 72	1 03	73	61	52
40	2 77	3 08	3 26	1 30	79	67	·63
45	3 21	3·53	3 81	1 48	89	79	·74
50	3 76	4 06	4 10	1 34	1 11	1 05	85
55	4 49	4 74	5 01	1 79	1 50	1 54	1 05
60	5 59	5 78	5 77	3 35	2 16	2 23	1 38
65	7 50	7 44	6 99	4 11	3 27	3·28	1 95

(*Report on the Census of 1921 by H G W Meikle, 1926, pp 20-21*)

Mr Meikle found that the rates of mortality for males in several of the Provinces were more than double the rates for the English town of Carlisle and its environs shown above separately, and more than four times as heavy as those deduced from the Scottish census Mr Meikle, however, entered " a note of warning against any increase shown in the more recent rates of mortality which are entered in Table VIII [from which the above figures have been extracted] being taken as evidence of decreased vitality of the population "

Whatever the value of the figures given above, they do not encourage the hope that the vitality, or disease-resisting power of the population, has increased. No such increase is suggested by the state of public health in the decade 1911—20 The Census Commissioner for 1921 estimated the total mortality on account of the influenza epidemic of 1918-19 at 12-13 millions * Mr Meikle refers to estimated deaths caused by this epidemic amounting to the terrible figure of 7 per cent. of the total population, or about 22 millions.†

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* Report I, 14

† P. 1 of his Report

Apart from influenza, there were serious outbreaks of plague in Bombay, the Punjab, the Central Provinces and the United Provinces in the first two years of the decade The total death rate in British India from cholera amounted to 1 5 per cent Malaria is endemic in some provinces, it tends to lower the vitality of the population and reacts on the birth-rate The population of Western Bengal is described as "sodden with Malaria" Phthisis is responsible for considerable mortality in towns, specially of Western India—the deaths from this disease in Ahmadabad amounted in 1918 to 5 per mille of the population.

Mr Meikle has compared male and female mortality in the different provinces He finds that female mortality is greater than male

At all ages among Hindus and Muhammadans in the Punjab and amongst Muhammadans in the United Provinces
At ages 50 and under amongst Muhammadans in Bengal
At ages 45 and under amongst Muhammadans in Bombay.
At ages 40 and under amongst Hindus in Bombay
At ages 10 to 40 amongst Hindus and Muhammadans in Madras
At ages 30 and under amongst Buddhists in Burma
At ages 15 to 30 amongst Hindus in the United Provinces
At ages 25 and under amongst Hindus in Bengal.

The heavier mortality in the case of females is generally more marked among Muhammadans than Hindus, and this must be due to the *parda* system

As regards males, the heaviest mortality is among Hindus in the United Provinces, Bengal and Bombay. Next in importance is mortality for Muhammadans in Bengal and Bombay, followed by that for Hindus in the Punjab and Muhammadans in the United Provinces and the Punjab.

How the mean duration of life is calculated

The mean duration of life or mean expectation of life is calculated with the help of a mortality table. A mortality or life table shows the number of individuals living at the commencement of each year, beginning from age 0 (birth), in the next column is shown the number of deaths in each year The following life-table for males (All India) was prepared in 1911 —

Life Table, All India. Males

Age	Living at age x	Dying between ages x and $x+1$	Mean after life time at age x
0	100,000	28,998	22 59
1	71,002	6,473	30·72
2	64,529	4,241	32 76
3	60 288	2,913	34 03
4	57,375	2,067	34 73
5	55,308	1,523	35 01
6	53,785	1,168	34 99
7	52,617	933	34 76
8	51,684	786	34 38
9	50,898	686	33 90
10	50,212	626	33 36
11	49,586	593	32·77
12	48,993	585	32 16
13	48,408	590	31 54
14	47,818	605	30 93
15	47,213	626	30 32
16	46,587	651	29 72
17	45,936	676	29 13
18	45,260	703	28 56
19	44,557	724	28 00
20	43,833	742	27 46
21	43,091	758	26 92
22	42,333	773	26 39
23	41,560	787	25 87
24	40,773	800	25 36
25	39,973	811	24 86
26	39,162	820	24 37
27	38,342	829	23 88
28	37,513	838	23 39
29	36,675	844	22 92
30	35,831	850	22 45
31	34,981	855	21·98
32	34,126	861	21 52
33	33,265	865	21 06
34	32,400	869	20·61
35	31,531	872	20 16

Age	Living at age x	Dying between ages x and $x+1$	Mean after-life time at age x
36	30,659	875	19·72
37	29,784	877	19·29
38	28,907	879	18·86
39	28,028	879	18·43
40	27,149	879	18·01
41	26,270	875	17·60
42	25,395	871	17·19
43	24,524	865	16·78
44	23,659	856	16·38
45	22,803	849	15·97
46	21,954	842	15·57
47	21,112	829	15·17
48	20,283	819	14·77
49	19,464	808	14·37
50	18,656	798	13·97
51	17,858	787	13·58
52	17,071	775	13·18
53	16,296	762	12·78
54	15,534	750	12·38
55	14,784	737	11·99
56	14,047	724	11·59
57	13,323	711	11·19
58	12,612	698	10·79
59	11,914	685	10·40
60	11,229	674	10·00
61	10,555	661	9·61
62	9,894	648	9·22
63	9,246	634	8·83
64	8,612	620	8·44
65	7,992	605	8·06
66	7,387	590	7·68
67	6,797	574	7·30
68	6,223	557	6·93
69	5,666	539	6·56
70	5,127	521	6·19
71	4,606	502	5·84
72	4,104	480	5·49
73	3,624	457	5·15
74	3,167	431	4·82
75	2,736	402	4·50

Age	Living at age	Dying between ages x and $x+1$	Mean after life time at age x
76	2,334	372	4·19
77	1,962	340	3·89
78	1,622	306	3·61
79	1,316	271	3·33
80	1,045	236	3·06
81	809	200	2·81
82	609	166	2·57
83	443	133	2·34
84	310	102	2·13
85	208	76	1·93
86	132	53	1·75
87	79	35	1·58
88	44	21	1·42
89	23	12	1·28
90	11	6	1·15
91	5	3	1·08
92	2	1	·89
93	1	1	
94			

It is seen that of 100,000 infants born, 28,998 died in the course of one year, and 71,002 reached the age of 1 year. Their deaths would have been distributed over the whole year, so that the mean duration of life in the case of 28,998 infants would be only half-a-year. We therefore multiply 28,998 by ½ year, deaths in the second year (6,473) by 1½ years, deaths in the 3rd year (4,241) by 2½ years, and so on till the end. The mean duration of life is found by dividing the sum of these products, by the number of births (100,000), or what is the same thing, by making the sum of those living at each age and dividing the total (2,317,421 in the present case) by the number of births (100,000) and subtracting ½ from the quotient, the year being taken as unity (23·17 — ·5 = 22·67 mean duration of life). To find the expectation of life at any particular age we proceed similarly For example, the number of those living at age 46 is 21,954, the total of numbers inscribed against each age, beginning from age 46 up to 93 is 352,798 Dividing the total by 21,954, the number living at age 46, we get 15 57 as the "mean after-life time" at age 46 By the same method the mean expectation of life is found to be 32 76 at age 2 and 30 73 at age 1. As calculated by the actuary the mean after-life time at birth was 22 59 and at age one 30 72, the difference must be due to special assumptions made by the actuary regarding the distribution of deaths in the first, year of life

On account of heavy mortality in the first year of life, the mean expectation of life at the moment of birth is not the greatest, in India it is greatest at age five, 35 01 for males and 35 40 for females (1911). According to the mortality table for 1910-11 the mean expectation of life in Germany was greatest at age two, 57 74 for males and 59 64 for females *

It is impossible to calculate the mean duration of life for 1921 as no mortality table for that year has been published Admittedly our age returns are full of errors and misstatements, but the errors and misstatements do not vary greatly from census to census, and no large error would be involved in assuming that they remain fairly constant. The mean expectations of life based on a life-table for 1921, supposing one were available, could therefore be compared with those for 1911, and valuable information gained about changes in the health and vitality of the population It is from this point of view that the study of figures of population acquires its greatest significance, and it is hoped that the person who is called upon to write the actuarial report on the census of 1931 will

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* *Von Mayr II, 420-1.*

not omit to calculate the mean expectations of life, or at any rate, will not withhold from the public the material, that is the life-table, which is required for calculating it

The decrease in the mean expectations of life at all ages in 1911 as compared with 1891, and the extreme improbability of any increase in 1921, in view of the state of public health in the decade 1911—20, give rise to melancholy reflections The Prices Enquiry Committee of 1910 repeatedly refer in their report to the very great growth of prosperity in the period 1895—1910 The material welfare of the country, as a whole, they say, "increased remarkably" in this period* The Government of India saw on all sides "indications of a higher standard of living"† That certain classes of the community have now a higher standard of living and are more prosperous than before, is true But why a remarkable increase in the material welfare of the country as a whole, or "indications of a higher standard of living" on all sides should have found expression in a decrease in the mean expectations of life at all ages in 1911 is difficult to understand

The question whether an increase or decrease in the duration of life has any connection with prosperity was ignored by the Prices Committee, as it is ignored by official writers generally Among indices of prosperity mentioned by the Prices Committee two are of special interest the growth of stamp revenue and the growth of excise revenue. The former is regarded as "a sign of prosperity of the people who indulge in the luxury of litigation", the latter shows "an increase in the purchasing power of the classes that consume intoxicating liquors and drugs." ‡

The increase in the absorption of gold and silver, the growth of foreign trade, the increase in the imports of articles of luxury and convenience, the growth of Government revenue, the development of railway traffic and of the post and telegraph business, and the growth of life-insurance, are of less significance from the point of view of the masses in throwing light on their economic and health conditions than a simple life-table and the mean expectations of life based on it.

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* *Report*, p. *184*

† *Ibid*, *x*.

‡ *Prices Report*, *pp 146-7*.

CHAPTER XVIII.

Age distribution. Sex Marriage Density Urban and Rural Population

A high rate of infant mortality has an important influence on the distribution of the population according to age Age distribution takes a pyramidal form The age-pyramid in the case of India has a very broad base and a very narrow point The following Table shows the age distribution in India per 1000 of the population in 1911 and 1921 For the sake of comparison the figures for Germany have been added

Age	*British India*		*Germany*	
	1911	1921	1910	1925
Under 10	276	274	234	156
10—20	192	198	203	204
20—30	178	170	164	184
30—40	142	143	139	142
40—50	99	61	105	124
50—60	61	61	76	95
60—70	36	36	51	61
70 and over	16	17	28	32

The age distribution of the population of India remained practically unchanged between 1911 and 1921 The great difference between the numbers in the first two age-groups (76 in 1921) is the result of heavy mortality in the earlier years.

In the case of Germany we notice the heavy decrease in 1925 (due to the fall in the birth rate) in the figure for the first age group, and the increase in those for all other age groups.

With the improvement in health conditions the proportion of men as well as women over 60 years in age has increased in recent years in some European countries and the United States For example, the proportion of men over 60 per 100 males in Germany was 7.1 in 1920 and 8 7 in 1925, in England and Wales 7 3 in 1910 and 8 8 in 1920, in the United States 6 8 in 1910 and 7.5 in 1920. There was a similar increase in the proportion for females in these countries In India * at the census of 1881 there were 4.75 men over 60 per 100 males, the proportion fell to 4 62 in 1891, but has increased since then, and at the census of 1921 it amounted to 5 07 In the case of females, this proportion fell from 5 91 in 1881 to 5 73 in 1891 and 5 55 in 1901 At the census of 1911 it showed no change, but increased to 5 57 in 1921. Thus the proportion of women over 60 per 100 of their sex remained practically stationary between 1901 and 1921, while it had fallen in 1921 as compared with 1891 or 1881

Sex In regard to sex again the conditions in India and in Europe are very different. The deficiency of females at birth is a well-known phenomenon In European countries the proportion of boys to girls at birth is 104—106 boys to 100 girls There is a deficiency of females at birth in all parts of India, but the deficiency is greater in the Punjab and the N. W. F. Province than in any other Province.

In Europe, however, the death-rate among females is much lower than among males, and consequently the proportion of females to males in the higher age groups increases. Before the War there were per 1,000 males, in Germany 1,026 females, Great Britain and Ireland 1,061; France 1,035, Italy 1,037 and Sweden 1,046 The proportion of females in the population increased after the war.

A comparison of figures for Europe with those for

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* Census of India I, 128

India shows that conditions here are not so favourable for females as in Europe. There is an excess of females over males in the age groups 20—30 and in the last group 60 and over. In other age groups there is an excess of males over females, and so also in the total population. Further, the proportion of females to males decreased between 1901 and 1921 —

No. of females per 1000 males. *

	1901	1911	1921
Actual population	963	954	945
Natural population	963	953	944

What are the causes of this remarkable deficiency of females ? The Census Commissioner for 1911 conclusively showed that the deficiency could not be ascribed to defective registration of females The deficiency of females at birth is not a satisfactory explanation, for, as we have seen, such deficiency is a universal phenomenon A higher death rate among boys, who are constitutionally more delicate than girls, equalizes the proportions of the sexes by the time adolescence is reached. After that, in European countries, mortality among males remains relatively high on account of their harder life, which is more exposed to risk, than that of females. In India, among the lower classes, women generally lead a harder life than men, and among all classes the evil of early marriage and excessive mortality amongst young mothers tends to reduce the number of women and their proportion to men. The *purdah* among the Musalmans and the Hindus of higher castes in some provinces must adversely affect the health of women, particularly of those residing in towns.

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* *Census of India I, Part I, p. 149.*

Marriage. There are three chief features of Indian conditions relating to marriage as compared with those in European countries, *viz.*, (*a*) the universality of marriage, (*b*) the early age of marriage and (c) the large proportion of widows. No country of Europe has so few unmarried males and females per 1000 of each sex as India (498 males and 358 females in 1921) In Germany, according to the census of 1925, per 1000 of each sex, 546 males and 513 females were unmarried The prejudice against the marriage of widows explains the high proportion of widows in our population—175 per 1000 females in 1921 (Hindu 197 and Muhammadan 170) The corresponding figure for Germany in 1925 (including divorced) was 93.

As regards the age of marriage, by twenty, 29.8 per cent of males and 77.1 per cent of females are married in India The proportion for Hindus is 33 9 males and 81.4 females, and for Muhammadans, 24 1 males and 81 5 females It would seem that Muhammadan men marry at a later age than Hindu. These figures may be compared with those for Germany (1925) the number of those under 20 who were married, per 100 of each sex was 0·2 males and 2 6 females In Europe men marry at the ages 25—29 and women 20—24.

We may note in passing that the age of marriage is rising in India, though progress is slow. The number of unmarried males aged 10—15 per 1000 increased from 843 in 1881 to 879 in 1921 and of unmarried males aged 15—20 from 617 to 687, the number of unmarried females 5—10 increased from 874 in 1881 to 907 in 1921, and of unmarried females aged 10-15 from 481 in 1881 to 601 in 1921. But in view of the fact that in 1921, 298 per 1000 of the married males were below the age of 20 and 382 of the females below the age of 15 would show that the evil is still serious.

A close connexion exists in European countries between the number of marriages and the prevailing political and economic conditions. For example, the proportion of marriages per 1000 of the population in Germany rose from 8 2 to 10 3 in 1872 with the beginning of the era of prosperity following on the successful termination of the war with France, with the return of adverse economic conditions the proportion gradually fell to 7 5 in 1881 , thereafter it rose again with the improvement of the economic outlook The depression in the beginning of the year 1890, and that following the crisis of 1907 caused this proportion to fall, while economic prosperity in the latter half of the decade 1891-1900 raised it During the War the proportion fell as low as 4 1 in 1915 and 1916 in Germany, while in Norway and Sweden, for which the War was on the whole a period of prosperity, the proportion rose from 6 3 in 1913 to 7 5 in 1919

For India, unfortunately, no record of the number of marriages made each year exists. We, however, know the number of the married at each census As economic conditions vary considerably from decade to decade, we may try to ascertain if economic prosperity or adversity has any effect on the number of the married The appended statement* shows the number of married males and females at each census per 1000 of each sex —

	Males		Females	
	Married	Widowed	Married	Widowed
1881	467	49	490	187
1891	465	48	485	176
1901	454	54	476	180
1911	456	54	483	173
1921 ..	438	64	467	175

We notice a decrease in the number of the married from 1881 to 1901, a slight rise in 1911 and a fall in 1921. The Census Commissioner for 1921 thus comments on the increase in 1911

"The year 1911 ended in a period of comparative prosperity. There had been no widespread scarcity and though plague was violent in places, the mortality from it was distributed over a considerable period of time and was local in character Economic conditions were on the whole favourable and mortality normal The result was shown in a substantial rise in the number of the married and a decline in the number of the widowed *"

The "substantial rise in the number of the married consisted in an increase of 2 per 1000 in the proportion of males and of 7 in that of females If we combine the number of married and widowed then economic prosperity of the decade 1901—1910 had the effect of reducing the proportion of the unmarried males per 1000 from 492 in 1901 to 490 in 1911, the number of unmarried females remained unchanged It would seem that the change in 1911 was so slight as to be negligible

It may also be doubted whether the decrease in the number of the widowed in 1911 was due to economic prosperity in the decade ending in that year The decrease in the number of widows was greatest in the case of Animists "The explanation is," wrote the Census Commissioner (1911), "that at the time of that census (1901) conditions were abnormal owing to the famines of 1897 and 1900 which hit the primitive Animistic tribes harder than any other section of the community, and caused an unusually high mortality among them' † The Census Commissioner attributed the steady decline in the proportion of Muhammadan widows to the weakening of the prejudice against

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* *Vol I Report, p* 157

† *Report, I,* 273.

widow re-marriage. The proportion of Hindu widows in 1911 was less than that in 1901 by 6 per 1000, but greater than that in 1891 by 2 per 1000. The Census Commissioner for 1911 made no claim that the decrease in the number of widows was due to economic prosperity.

The statistics for India as a whole do not show any appreciable fluctuation in the number of the married according to favourable or unfavourable economic conditions It would seem that in India the variations in the number of the married are chiefly due to causes which influence the age constitution of the people For example, the proportion of the married of each sex was highest in 1881, and lowest in 1921 In spite of the conomic prosperity of the decade 1881—1891, which was free from any special calamity such as famine or plague, the proportions of married and widowed for each sex were lower in 1891 than in 1881. The probable explanation is that on account of the famine of 1876-78 the proportion of adults of both sexes to the total population was higher in 1881 than in 1891. The reduction in the proportion of the married in 1921 was chiefly due to the heavy mortality among adults owing to influenza in 1918.

Marriage is universal in India, as it is regarded a religious duty Economic considerations are not taken into account by people intending to marry, or by parents when marrying their children The proportion of the married to the total population would remain practically unchanged from decade to decade but for calamities which cause a change in this proportion by altering the age constitution of the people

Density

British India has an average density per square mile of 196, and Indian States, 113. Among the provinces, ignoring Delhi whose density is high (823) owing to the inclusion of a large urban area, Bengal shows the greatest density, 678. Next to Bengal the most thickly populated province of India is the United Provinces (density 414); Behar and Orissa follow with a density of 340. Madras has 297 persons per square mile, Punjab 183 and Bombay 143. Baluchistan has the lowest density, 6 persons per square mile.

Among the larger Indian States, Baroda shows the greatest density (262), and Kashmere the least (39). The Madras States have as many as 511 persons per square mile, while Baluchistan States have only 5

There are great variations in density within these political divisions A general view of the density of population is given by the appended statement, which shows that 48.3 per cent of the population occupies 16.4 per cent of the total area at a density of over 354 per square mile, while less than one-third of the population occupies 69 3 per cent of the total area at a density below the mean of the country (177) --

Density	Area in square miles	Percentage on total area	Population	Percentage on total population
India—177	1 805,332	100	318 942,480	100
Below 177	1 207,369	69 3	99,569 208	32 1
Over 354	285,160	16 4	149 752,290	48 3
177—354	312 803	14 3	69 620 982	19 6

Some idea of the variations in density in the same province may be formed from the fact that in Assam density ranges from 7 per square mile in the Balipara Frontier Tract to over 900 in parts of the Surma Valley (mean density of Assam 130) and in East Bengal, which is more thickly populated than any other part of India, from 34 in the Chittagong Hill Tracts to 1,148 in Dacca. The population of Eastern Bengal rises in more than one-fifth of the area to over 1,050 per square mile The Province of Behar and Orissa has a mean density of 340 per square mile, but within the Province density ranges between 109 in the Angul district of Chhota Nagpur and 907 in the Muzaffarpur district of North Behar.

What are the factors which determine the density of population?

"In former times," says Conrad, "the growth of numbers was chiefly determined by the productiveness of land The growth of civilization, which implies mastery over nature in a higher degree, and the development of industry and trade, make it possible to become independent of agricultural conditions, and cause a heavy density of population also in places poorly endowed by nature The great increase of population among modern civilized peoples is due to the growth of trade and industry."*

In India agricultural conditions are of far greater importance in determining the distribution of population than commercial or industrial development. Among agricultural conditions account has to be taken of rainfall, irrigation, configuration of the surface, and fertility of the soil. These are factors determining the productiveness of the soil, and density in India varies according to productiveness of the soil.

Density does not vary exactly as rainfall The parts of the country which receive the heaviest rainfall (Lower Burma, Assam) are not the parts which are most densely populated This is because excessive rainfall is not beneficial. The Census Commissioner for 1911 pointed out that a well-distributed annual rainfall of 40 inches "is sufficient in most parts of India," and that, "it is only where it is less than this, or is badly distributed, that differences in the amount received have any marked influence on the success of cultivation and consequently on the density of population "†

The influence of irrigation as a factor in determining the density of population is shown by the fact that the district of Lyallpur in the Punjab, with an annual rainfall of 13 inches, has a density of 301 per square mile. In 1891, before irrigation started, Lyallpur had only 7 inhabitants to the square mile. The canals were opened in 1892 and by 1901 the district had a population of 187 to the square mile. The density rose to 272 in 1911 and 301 in 1921.

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*Statistik Erster Teil p 81

†*Report, India, p.* 20.

In those parts of the Punjab where crops mainly depend on the supply of water by artificial means, canal or well irrigation, rainfall has practically no effect in determining the incidence of the population on cultivation.

Where, however, irrigation is of less importance, the incidence on cultivation varies according to rainfall. This is shown by the following table* —

Districts of the Punjab with less than 28 per cent irrigated area	Incidence on cultivated area	Rainfall Inches	Irrigation Per cent of matured crops irrigated
Kangra	984	74	20
Simla	972	63	0
Hoshiarpur	831	35	11
Gurdaspur	652	34	28
Rawalpindi	538	32	2
Ambala	522	32	6
Jhelum	443	26	5
Gurgaon	407	25	17
Rohtak	398	20	27
Attock	340	20	9
Mianwali	361	12	12
Hissar	196	16	16

The exceptional case of Hissar is explained by the fact that it lies on the border of Rajputana and the land of the district is of poor, sandy quality.

Configuration of the surface is next in importance to rainfall in regard to its effect on the density of population. The most thickly peopled tracts in India are the level plains of Bengal, Behar and Orissa and United Provinces East, and the low-lying plains along the sea-coast in south India. The configuration of the surface is also favourable in the United Provinces West and the Punjab

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* *Census Report*, *Punjab*, 1921, Vol I, 34.

East, but the rainfall is insufficient Hence the great importance of irrigation in these tracts.

The fertility of soil is of less consequence in India than the amount of the rainfall and configuration of the surface The valleys of the Ganges and the Indus are both alluvial formations but density is heavy in the former and light in the latter. The explanation of such wide differences in density, when the nature of the soil and configuration are the same, lies in the difference in rainfall

Urban and Rular Population

The population of India is overwhelmingly rural In 1921, out of a total population of 316 millions dealt with, over 283½ millions were living in "rural territory" and less than 32½ millions in "urban territory" The proportion of the urban and the rural to the total population at various censuses was as follows —

	1891	1901	1911	1921
Urban	9.5	9.9	9 5	10 2
Rural	90.5	90.1	90 5	89 8

It will be seen that the growth of town population between 1891 and 1921 was less than 1 per cent The progress of urbanisation in India is very slow as compared with that in European countries

The expansion of trade and commerce and the development of organized industries have had a marked effect upon the population of cities (over 100,000) and the larger towns. Between 1911 and 1921 the population of towns of above 50,000 increased 16 per cent, of towns of 20,000 to 50,000, 7 6 per cent., while that of towns of 10,000 to 20,000 increased only .7 per cent. These figures show that the growth of the larger towns has been at the expense of the medium sized towns. Similarly in Western India, which is industrially more advanced than other parts of India, " the types of places which are losing to the cities are not the smaller villages but the middle-sized country towns "*

The growth of towns is dependent upon the growth of industries In view of the very slow development of Indian manufacturing industries it is not surprising that the progress of urbanisation in India should have been slow. This progress has been very rapid in European countries, such as Germany, which is explained by their rapid industrialisation In 1800 about 90 per cent. of the population of Germany lived in places with less than 5,000 inhabitants, and only 10 per cent in towns The growth of the town population, particularly the population of cities, became rapid after 1850 and the pace increased after 1870

In 1871 Germany had only 8 cities (each with a population of 10,000), in 1925 the number had increased to 45 In 1871 the proportions of the urban and rural population in the total were 36 1 and 63 9 per cent respectively, in 1925 the proportions were 64.4 (urban) and 35 6 (rural) The distribution of the population between rural and urban territory in various countries is shown below —

	Total population Millions.	Rural Territory† %	Urban Territory %
India, 1921	316 0	89 8	10 2
Germany, 1925	62 4	36	64
England and Wales, 1921	37 9	21	79
Holland, 1920	6 9	25	75
Belgium, 1920	7 4	22	78
France, 1921	39 2	45	55
Switzerland, 1920	3 9	39	61
Sweden, 1920	5 9	70	30
United States, 1920	105 7	49	51

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* *Census of India, Vol* 1, *Report p* 66

† Rural territory in Germany, Belgium, France and Switzerland means places with not more than 2000 inhabitants, Sweden, not more than 2500, England and Wales, 3000, and the United States and India, 5000.

CHAPTER XIX.

OCCUPATIONS OF THE PEOPLE.

The number and percentage of the population supported by different occupations in 1921 and 1911 are shown by the following table —

Population in thousands

	1921		1911		
	Population supported by	Percentage of total population	Population supported by	Percentage of total population	Variation per cent
Total population	316,055		313,470		+ 8
A Production of raw materials	231,194	73 15	227,080	72 44	+ 1.8
I Exploitation of animals and vegetation (including pasture and agriculture, fishing and hunting)	230,652	72 98	226,550	72 27	+ 1 8
II Exploitation of minerals	542	17	529	17	+ 2 3
B Preparation and supply of material substances	55,612	17 59	58,106	18 56	- 4.3
III Industry	33,167	10 49	35,320	11 27	- 6 0
IV. Transport	4,331	1 37	5,028	1 60	-13 8
V Trade	18,114	5 53	17,756	5 69	+ 2 0
C Public Administration and liberal arts	9,846	3 12	10,456	3 48	- 5 8
VI Public force	2,181	69	2,398	.77	- 9 0
VII Public Administration	2,643	84	2,648	84	- 1
VIII Professions and liberal arts	5,020	1 59	5,409	1 70	- 7 1
D Miscellaneous	19,402	6 14	17,826	5 52	+ 8.8
IX Persons living principally on their income	479	15	540	17	- 11 1
X Domestic service	4,570	1 44	4,599	1 47	- 6
XI Insufficiently described occupations	11,098	3.51	9,236	2 95	+20 1
XII Unproductive	3,253	1.04	3,451	1 10	- 5 7

Persons dependent upon pasture and agriculture increased 1.9 per cent, while those dependent upon fishing and hunting decreased The rate of increase in the case of agriculturists was faster than the growth of population (1.2 per cent) Preparation and supply of material substances showed a decline of 1 3 per cent, and industry of 6 0 per cent The percentage variation in the case of different industries is shown below —

Textiles	— 5 4
Hides & skins, & hard materials from the animal kingdom	+ 1 8
Wood	— 4 9
Metals	— 3 1
Ceramics	— 1 1
Chemical industries properly so called & analogous	— 3 8
Food industries	—16 4
Industries of dress and the toilet	— 4 1
Furniture industries	—31 0
Building industries	—14 9
Construction of means of transport	— 6 7
Production and transmutation of physical forces (heat, light, electricity, motive power, etc)	+72 9
Other miscellaneous & undefined industries	— 4 2

It will be seen that industries "substantially" decreased. Those supported by textile industries decreased by 448,842, wood industries by 186,309, and metals by 59,237 Trade increased 2 per cent While commenting on the increase in the number of persons supported by trade, the Census Commissioner for 1921 pointed out that it was difficult to distinguish between traders and manufacturers in India, as in many cases the maker or the producer himself sold his goods. But there is very little possibility of decline in industries being due to errors of classification, as those who both made goods and sold them were tabulated as manufacturers

The increase in the proportion of persons supported by agriculture and decrease in that supported by industry in 1921 was not accidental It was due to causes which had been in operation for a long time. The population supported by the two heads in 1911 and 1901 was as follows —

Population in thousands

	1911	1901	Percentage of variation
Total population	304,233	285,398	+6 6
I Exploitation of the surface of the earth (pasture and agriculturture, fishing and hunting)	220,160	191,910	+14 7
II Industry	34,245	34,296	— 7

While commenting upon the growth in the number of landlords and cultivators in 1911 (13 per cent., or double that of the general population) the Census Commissioner for 1911 pointed out that while the increase was partly due to changes in the method of classification, it was not wholly unreal "At the same time," he said, "there seems to be no doubt that the number of persons who live by cultivation is increasing at a relatively rapid rate. On the one hand, the rise in the price of food grains has made agriculture more profitable, while on the other hand, the profits of various artisan classes have been diminished, owing to the growing competition of machine-made goods, both locally manufactured and imported, with the result that these classes show a growing tendency to abandon their traditional occupations in favour of agriculture."*

The principal variations under Industry in 1911 as compared with 1901 were as follows

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* *Census of India*, 1911. *Vol. I*, *Part I*, *Sec*. 530, *p*. 413.

	Per cent
Textiles	– 6 1
Hides, skins and hard material from the animal kingdom	– 33.9
Wood	+ 14.5
Metals	– 6.6
Ceramics	+ 8 7
Chemical products properly so called and analogous	– 5 6
Food industries	– 2 6
Industries of dress and the toilet	+ 3.3
Furniture industries	+ 66 2
Building industries	+ 18 2
Construction of means of transport	– 21 5
Production and transmission of physical forces (heat, light, electricity, motive power, etc)	+179 4
Industries of luxury and those pertaining to literature, arts and sciences	+ 9 2
Industries concerned with refuse matter	– 16 4

The largest increase was under production and transmission of physical forces, over 179 per cent But this is of small importance, considering that it gave employment to only 14,000 persons in 1911 (.04 per cent of the total number under industry) The more important industries are textiles (over 8 million persons in 1911), industries of dress and the toilet (over 7½ millions) and wood and food industries (over 3½ millions each)

There was an increase in the percentage supported by industries of dress and the toilet (3 3), and wood (14.5) The number of those supported by food industries declined 2.6 per cent, while under textiles there was a more serious decline of 6 1 per cent

The most important of the textile industries are those connected with cotton The proportion of the population supported by cotton spinning, sizing and weaving in 1911 was 37 per mille in the Punjab, 29 in Bombay and Rajputana, 27 in Madras, 22 in the Central Provinces and Berar, and 18 in the United Provinces. The decrease of 6 1 per cent in the number of persons supported by textile industriés was due mainly, says the Census Commissioner for 1911, "to the almost complete extinction of cotton spinning by hand. Weaving by hand also suffered severely from the competition of goods made by machinery both in Europe and in the country" The number of Indian cotton mills, and that of factory workers had increased, but as the output per head in a factory is greater than that of hand-looms, the increase in the number of factory workers would imply the displacement of a larger number of hand-workers

Other industries which were seriously affected by the competition of machine-made goods were hides and skins and metals The statement given above shows that there was a large decline in the number of workers in hides This is partly compensated by an increase in the number of boot and sandal makers But the two groups taken together show a decline of about 6 per cent During the same period the number of hide dealers more than doubled, owing to the growing demand abroad for Indian hides and skins and the expansion of the export trade in these articles "The local cobbler on the other hand," says Mr Gait "having to pay more for his raw material (on account of the rise in the price of hides and skins) and feeling the increasing competition of machine-made goods, has been tempted to abandon his hereditary craft for some other means of livelihood, such as agriculture or work in factories of various kinds" *

The case of metals was similar The total number of persons dependent on metal industries decreased 6 6 per cent as compared with 1901, while the number of dealers in metals increased six times "The decrease in the number of metal workers and the concomitant increase in that of metal dealers is probably genuine and is due largely to the substitution, for the indigenous brass and copper utensils, of enamelled ware and aluminium articles

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* *Census of India, 1911 Vol. I, Part I, Sec. 540 p 419.*

imported from Europe." *

An increase in the proportion supported by agriculture was also noticed at the census of 1901, but the census Commissioner did not think that it indicated "a greater dependence upon the land due to the abandonment of weaving and other indigenous industries" A comparison of the figures for 1891 and 1901 is rendered difficult by changes in classification but the movement from industry to agriculture has been so clearly marked from the beginning of the present century that it cannot be ignored

So far we have dealt with India as a whole. It may be interesting to study in detail the figures for individual provinces The following table shows the percentage of the total population supported by agriculture and industries in different provinces at the censuses of 1901, 1911 and 1921 —

Percentage of total population supported by different occupations †

	Agriculture			*Industry.*		
	1901	1911	1921	1901	1911	1921
India	65.2	69.8	70.9	15.5	11.4	10.7
Assam	84.2	85.4	88.0	7.8	3.2	2.6
Bengal	71.5	75.4	77.3	12.3	7.7	7.8
Behar and Orissa		78.3	79.7		7.7	6.9
Bombay	58.6	64.3	61.6	18.2	12.7	12.2
Burma	66.1	69.1	70.7	18.6	6.8	6.9
Central Provinces	70.0	75.5	74.2	16.2	10.2	9.3
Berar	73.2			12.9		
Madras	69.0	68.7	70.8	17.5	13.4	11.3
Delhi			28.4			31.0
North-West Frontier Province	56.9	66.7	65.0	19.4	11.5	12.6
Punjab		58.0	59.0		20.5	19.3
United Provinces	65,5	71.6	75.0	14.9	12.2	11.0

There is no province in which agriculture in 1921 did not support a higher percentage, and industries a lower percentage of the population than in 1901. In the Punjab, perhaps, the position has not changed much But the table indicates generally increasing pressure on the land everywhere, and the decline of industries

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* *Census of India, 1911, Vol. I, Part I, Sec 542, p 420*

† *Census Reports India, Vol I, 1921, 282, 1911, 434, 1901, 284*

The causes of the increasing dependence upon agriculture have been pointed out above, and they are similar in every province—the growth of imports and the competition of machinery While hand-industries are declining, we have failed to establish organised industries on a sufficiently large scale to provide employment for the hand-worker in factories

To quote the Census Superintendent of the United Provinces, there is "a movement of the industrialist back to the land" in that province In the decade 1911—20, while the population of the United Provinces decreased by 1½ millions, the absolute number of those engaged in "farming" increased "A certain surplus of the village artisan population is drifting into agriculture," says Mr Edye, as the result of the competition of large-scale enterprises on the Western factory system, and of certain cottage industries organised by small local financiers The greatest sufferers have been the village potter, blacksmith and carpenter

The rise in the price of food-grains during the decade 1911—20 made agriculture more attractive than before, and increase in the demand for factory labour in the United Provinces had no effect in withdrawing labour from the land "No wages will attract the peasant of the province," says Mr Edye, "so long as his holding will maintain him in the standard of comfort to which he is accustomed. With grain at the prices prevalent since 1914 his holding will do this and more." *

Similarly in the Bombay Presidency, in spite of the

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* *Report for the United Provinces (1921) p 159*

growth of the cotton factory industry, there has been a decline in the proportion of the population supported by industries The Census Superintendent quotes numbers supported by agriculture, and compares them with the numbers supported by industry and trade, British Districts, during 1901—1921, and concludes that, "There is nothing in the figures to lead to the idea commonly held that the people are forsaking the land for industries "*

The Census Superintendent for Assam thus comments on the decrease in the proportion of those supported by industries —

"Assam is not an El Dorado Apart from agriculture and tea, industry is of little account, and the statement in the margin hardly indicates growth, although certain industries have actually increased a little It is true that there are plenty of natural resources in the country, and both organised and cottage industries, if developed, could well subsist and aid the return of prosperity, side by side with agriculture But the obstacles to development are strong " †

This statement about Assam may be taken to be typical of the rest of India The country is rich in natural resources, and industry and agriculture could exist side by side and "aid the return of prosperity," but for reasons which need not be examined here, the industrial development of the country was proceeding at an extraordinarily slow rate before the War The consequences of this for the country as a whole were graphically described by the Indian Industrial Commission, so far as agriculture is concerned the consequences have been disastrous

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* *Bombay Census Report, p. 215*

† *Assam Census Report, p 170.*

As the result of the increasing dependence on agriculture it may be inferred that pressure on the agricultural resources of the country is increasing With the exception of Assam and Burma, there is no province in which pressure on agricultural resources is not beginning to be seriously felt

Under existing conditions, agriculture is supporting too many people in the districts of the Eastern Plain and in Simla, Kangra, Hoshiarpur, Gurdaspur, Amritsar, Jullundur, and Sialkot in the Punjab , in the Indo-Gangetic Plain East and the Sub-Himalayan East in the United Provinces , in Eastern Bengal , in parts of the Madras Presidency, particularly those which lose by migration , in North Behar and parts of South Behar in the province of Behar and Orissa , in Konkan and parts of the Deccan and Karnatak in the Bombay Presidency , and in the Maratha Plain Division and the Chhattisgarh Plain Division in Central Provinces and Berar

The Census Superintendent, Punjab, (1921) thus sums up his conclusions regarding the pressure of population on agricultural resources —

> "To sum up, density varies everywhere in accordance with agricultural resources to the exclusion of all other factors , it is so directly proportionate that the conclusion that there is pressure on these resources is irresistible , yet this same direct proportion also indicates that other factors have not been brought into play and hence that the pressure on resources is not extreme, for in that case industrialism would have been forced into existence, and would have led to variations in density independent of agriculture An exception to the rule exists in the irrigated portions of the Western Plain, where population is rapidly increasing and as yet has received no check by its pressure on resources , whilst the beginning of more acute pressure are observable in the extreme east

of the Province, where there is a steady decline in population in Ambala and Gurgaon, and diminishing rate of increase in other districts "*

The extent of overcrowding in some of the districts of the Eastern Plain may be judged from the fact that between 1881 and 1921 the population of Ambala decreased 18 per cent, of Gurgaon 10 5 per cent, Ludhiana 8 3 per cent, and Karnal 3 2 per cent The decrease in the population of Gurgaon and Ambala is not wholly accounted for migration The pressure on resources is heaviest in Gurgaon and it is not less severe in Ambala and Karnal.

The population of the United Provinces increased by 9 1 per cent., between 1872 and 1921, and it decreased 3.1 per cent in the decade 1911—20 Conditions seem to be exceptional in the United Provinces, for among the major provinces of India, the rate of growth in this Province (3 per cent per decade under normal conditions) is the smallest The United Provinces also stands second on the list of those Provinces and States which on balance lose by migration (—974,642 in 1921)

The Census Superintendent for 1911, Mr Blunt, thus wrote about the eastern districts —

"The pressure on the land has long been considerable in these tracts, and must still be very great, though plague has ruthlessly relieved it "†

And again —

"There were signs ten years ago that the most densely inhabited tracts in the Provinces, the Eastern Plain and the Eastern Sub-Himalayas, were beginning to seriously feel the pressure of the population on them, but the pressure is relieved, *not by internal emigration to other* parts of the Province, but by emigration to the east, to Bengal and Assam, and it was the growth of this emigration which showed that the tract was getting over-populated But the pressure now is far less than it was ten years ago, for plague has proved a terrible though effective adjunct to emigration in relieving it "

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* *Report*, p 31

† *Report*, 1911, p. 49

Influenza did the work of plague in 1918-19.

Behar and Orissa heads the list of Provinces and States which on balance lose by migration In 1921 the net loss suffered by this Province by emigration amounted to 1,567,968 The permanent flow of emigration from Behar and Orissa is towards Bengal and Assam. The tea plantations of Assam offer to the aboriginal races of Behar and Orissa "more steady means of subsistence" than they enjoy in their province More important than the permanent stream of emigration is the "enormous flow of periodic labour which pours out from North and South Behar between March and November into the agricultural and industrial areas of Bengal, returning towards the end of the year for the cultivating season in the home areas"*

It is not pretended that emigration from Behar and Orissa to Assam and Calcutta is due to such causes as "domestic unpleasantness" The Census Superintendent for 1921 says —

"The great development of emigration is an indication of the hard times that Orissa has passed through since 1918, and also shows how it was that a repetition of the tragedy of 1866 was avoided It would be difficult to overestimate the number of lives saved by the East Coast route of the Bengal Nagpur Railway in the last years of the decade by bringing food to the people and, even more important, by taking the people to places where work and food could be found"

The population of Assam increased by 929,725 in 1911-21, and of this 44 3 per cent. was due to migration. Assam heads the list of Provinces which on balance gain by migration.

The mean density per square mile in Assam is 130 but there are great variations in density in different parts of the province The percentage of net cultivated to cultivable area is 25 for the whole of Assam, 23 for the Brahmaputra Valley, 70 for Surma Valley and 5 for the Hills. The Brahmaputra Valley attracts the largest number of immigrants, as it contains the bulk of the tea plantations The figures of net cultivated area show that there is considerable room for expansion in the Brahmaputra Valley The Surma Valley is much more densely populated, and in 1911—21 it lost by migration

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* *Census Report, India*, 1921, p 86

"Assam," says the Census Superintendent, "is one of the few parts of India where there is still ample land awaiting settlers, and with no need for artificial irrigation" Colonisation of the Brahmaputra Valley is proceeding rapidly, the number of the colonists in 1921 increased five-fold as compared with the census of 1911 and it is expected to increase 100 or 200 per cent by the next census

The tea-garden industry of Assam attracts labourers from Behar and Orissa, the Central Provinces, the United Provinces and Madras, while the settlers in the Brahmaputra Valley mostly come from Mymensingh, Dacca and other districts of Eastern Bengal

There is undoubtedly room for expansion in Burma. Burma is third among the Provinces and States of India which gain by migration, its net gain in 1921 amounting to 553,471 The population of Burma is a little over 13 millions and mean density per square mile 57. The population is not distributed evenly over the whole province. Rangoon and Mandalay represent two large patches and Moulmein and Akyab two small patches of heavy density These four dense patches cover one-third of the area of the province and contain two-thirds of the population.

Burma is divided into four main natural divisions, of which the first, Burman, is further sub-divided into Delta, Coast, Centre and North The Delta includes most of the immigrants into the province, including Indians and Chinese It seems to be fully occupied, for the percentage of the cultivable area which was under cultivation in 1921 was estimated to be over 90.* The Burmese are mostly concentrated in the Centre, though economically the Centre is of less importance than the Delta

The population of Burma increased by 9 per cent. in the decade 1911-21

The percentage of cultivated area in 1921 was estimated to be Burma 39, Coast 21, Centre 41 and North 33 These figures and the fact that the net gain of Burma by migration was greater in 1921 than in 1911 show that Burma is capable of absorbing an increase in the native population, as well as immigrants

Migration of labour between province and province is unrestricted by Government with the exception that certain provinces can regulate or prohibit the migration of labourers to the tea-gardens in Assam The Agricultural Commission recommended the abolition of all restrictions on the movement of labour throughout India The Commission found that migration within India was not taking place to the extent which might have been expected, in spite of the fact that pressure on the soil was "extreme" in North Bihar, in the deltaic areas of Bengal and Madras, and in certain parts of the United Provinces. The factors which limit the internal movement of labour are three (*a*) attachment to land, however, small be the holding of the cultivator, (*b*) indebtedness, which makes it difficult for the cultivator to leave the village permanently, and (*c*) " the important factor of ill-health."

We have, however, seen that there is room for expansion on a considerable scale only in Assam and Burma.

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* *Census Report for Burma*, 1921, *p* 21

Even taking the most optimistic view of the situation, it may be doubted whether it would be possible to dump in these two provinces the whole of the surplus agricultural labour of the belt stretching from the Madras Presidency east and north through Bengal, Behar and the United Provinces

Apart from migration within the country to the less congested parts, the pressure of population on the land may be relieved by (*a*) emigration abroad, and (*b*) the development of manufacturing industries

The number of Indians resident outside India, but within the British Empire, is estimated to be 2,282,000, and of those living in foreign countries outside the British Empire, about 100,000 Indian emigrants to places within the Empire are distributed approximately as follows —

Ceylon	820,000
British Malaya	660,000
Mauritius	274,000
Union of S Africa	161,000
Trinidad	126,000
British Guiana	125,000
Fiji Islands	61,000
East Africa	55,000

Under the provisions of the Emigration Act of 1922, emigration abroad of unskilled labour is allowed only to Ceylon and British Malaya The emigration of skilled labour is also controlled, but the amount of such emigration is negligible

India's losses by emigration are very small In 1922-26 the (net) emigrants to Ceylon numbered 280,609 and those to British Malaya 200,405, or a total of less than half-a-million. The emigrants came chiefly from the Madras Presidency

Acording to the Agricultural Commission, the present annual amount of emigration to Ceylon and British

Malaya "satisfies the economic demand and cannot be adequately increased." Ceylon indeed is "slowly reaching the saturation point in absorbing Indian labour on the estates" These two Colonies will provide annually an outlet for not more than 140,000 persons

It is hoped that British Guiana will absorb a considerable number of Indian emigrants The present population of the Colony is 304,000, of whom about 125,000 are Indians It is estimated that the Colony can support a population of about 3 millions Advantages of settling Indians in this Colony, on conditions which are satisfactory from the point of view of the planters as well as the emigrants, cannot be disregarded, but on the whole, emigration outside India, on account of its small volume, offers little hope of relieving the pressure of population on the land

How far can the development of rural industries improve the economic position of the agriculturist ? The subject was investigated by the Agricultural Commission, and their conclusion, while perfectly sound, was a melancholy one

There are two classes of rural industries (*a*) industries of the factory type located in rural areas, such as rice-hulling and oil-crushing factories, sugar refineries and cotton ginning, factories and (*b*) village and domestic industries, such as hand-weaving, hand-hulling of rice, gum-making, the extraction of oil in the village oil-press, silk filatures and village handicrafts generally

The factory industries draw their labour from the rural areas in which they are located Their development would provide employment to the agriculturist in his spare time—this is the most that can be said about them. They provide no solution of the problem of growing pressure of population on the land. We have also to remember that in the country as a whole rural factory industries are of little importance. They offer employment to only about 250,000 hands, or 0·3 per cent. of the total numbers employed in agriculture.

The factory industries which can be advantageously developed are the manufacture of agricultural implements and of oil-cake, and the oil and bone-crushing industries The manufacture of paper from bamboo pulp may be expected to provide some employment to the rural population living on the outskirts of forests

Among village industries, the most important, of course, is hand-loom weaving The weaver is still bravely facing the competition of machine products, but as imports and the production of Indian cloth-mills increase, his economic position cannot be expected to improve However, hand-weaving is, and will for a long time remain, the principal village industry It should be possible to encourage the pottery industry, and brick and rope making Fibre for rope-making is grown almost everywhere in India, and if rope-making machinery of a simple type could be introduced, the agriculturist would be provided with an additional spare-time occupation. Rope-making by hand for domestic purposes is carried on almost in every village.

The silk industry is threatened by a new danger It is stated that the demand for silk goods within the country in not declining But in the past few years the imports of artificial silk have increased enormously

Imports of artificial silk

	1921-22	1927-28
Yarn, 1000 lbs	70	7,509
Value Lakh Rs	4·54	149·2
Piece goods of cotton and artificial silk 1000 yds	560	53,140
Value Lakh Rs	7·56	386·42

Between 1921-22 and 1927-28 the quantity of imports of artificial silk increased about 100 times. The principal imports are from the United Kingdom and Italy

Among other village industries, poultry farming can be developed near large towns There are possibilities in drying or preserving eggs for export and manufacturing dried albumen The cultivation of flowers has also been suggested. The Dutch farmer knows the value of flower-cultivation. In India, however, the demand for flowers is more limited and it would be difficult to find instances of successful flower-growers in the country whose only source of income is flower-growing

The Agricultural Commission recommended the adoption of special measures to encourage lac-cultivation India has a monopoly of lac and it is an important industry in Behar and Orissa The exports of lac in 1927-28 were valued at about Rs 7 crores

While the development of rural industries must benefit the rural population by enabling the agriculturist to add a little to his income by working in his spare time, " the contribution," in the words of the Agricultural Commission, " which rural industries can make, in reducing the heavy pressure on the land is infinitesimal, and in the nature of things they cannot, as a rule, hope for ever to survive the increasing competition of organised industry "* The Commission sum up their survey of rural industries with the conclusion that " the possibilities of improving the condition of the rural population by the establishment of rural industries are extremely limited "*

The only hope of reducing the heavy pressure on land lies in the rapid development of non-agricultural industries

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* Report, p. 575.

CHAPTER XX

IMPROVEMENT OF AGRICULTURE

The problem of increasing agricultural production is of increasing importance in India Means must be found of increasing the yield of land, if for no other reason, because a growing population wants more food

Under existing conditions, India is self-sufficient in the matter of food, but our surplus of food, which was estimated at about 9½ million tons by the Famine Commission of 1898, is probably of smaller amount at present in a normal year, while in a year of scarcity it is sometimes necessary to import food In 1921-22, for example, 439,985 tons of wheat were imported, of which 400,000 tons came from Australia

It is impossible to estimate exactly the amount of the surplus of food over and above the requirements of the population But, making no allowance for export, a surplus of 5—7 million tons might be exhausted by the normal growth of population in two or three decades The possibility, therefore, of a comparative shortage of food supply in the coming years cannot be overlooked, and this is why the problem of increasing the yield of land is of such importance in this country The problem is not one of transforming India "into one of the great bread-baskets of the world," but of growing food enough to meet our own requirements.

There was a considerable expansion of the area under food-grains in the period 1895-96 to 1915-16. But both the area and the yield since 1916 have been practically stationary The area under the principal food-crops and the yield in recent years are shown by the appended statement :—

Area under the Principal Food-crops in million acres.

	1913-14	Average 1915-16 t0 1919-20	Average 1920-21 to 1924-25	1923 24.	1924-25	1925 26	1926-27.	1927-28
Rice	75 43	79 52	80 72	79 11	81 41	82 38	79 70	78 11
Wheat	28 48	30 50	29 57	31 18	31 78	30 47	31 30	32·22
Barley	7 14	7 62	6 98	7 13	6 90	6 57	6 31	6 77
Juwar	21 37	21 77	30 04	30 46	31 46	29 59	29 26	29 92
Bajra	14 76	13 21	13 49	13 67	11 96	12 26	13·79	14 42
Maize	6 15	6 46	5 90	5 82	5 31	5 44	5·52	5 92
Gram	8 95	13 00*	14 24	14 40	16 47	14 30	14·58	13 92

Yield in million Tons

	1913-14	Average 1915-16 t0 1919-20	Average 1920-21 to 1924-25	1923 24.	1924-25	1925 26	1926-27.	1927-28
Rice	28 79	32 02	30 75	28 20	31 07	30 74	29 68	28 18
Wheat	8 36	9 29	9 01	9 66	8 87	8 70	8 97	7 74
Barley	2 69	3 17	2 87	2 94	2 64	2 58	2 55	2 09
Juwar	4 04	4 94	5 50	5 31	5 82	5 32	5 36	6 41
Bajra	1 98	2 33	2 29	2 20	2 22	1 98	2 46	2 42
Maize	2 08	2 33	2 06	2 18	1 69	1 87	1 92	2 25
Gram	1 94	3 55*	4 12	4 46	4·18	3 87	3 99	3·23

* Statistics of area and yield not complete for all years included in the average

(Source *Area and Yield of Principal Crops in India*).

In a good year 31-32 million tons of rice and about 9-10 million tons of wheat are produced, and smaller quantities of the coarser food grains While production fluctuates considerably from year to year, the yields at the present time are about the same as the average yields in 1915-16 to 1919-20

The prospects of any substantial increase in the area under the food-crops in the near future seem to be very limited The development of irrigation in the Punjab in the coming years must be slow, not only because the most important sources have been already tapped, but because of the new danger to which the rapid extension of canal irrigation has given rise—water-logging In some parts of the country, as the United Provinces, possibilities of adding materially to the cultivated area through the development of canal irrigation seem to have been exhausted

The hope of increasing production therefore mainly lies in increasing the productivity of land

The problem is complicated by the fact that India exports both crops and manure The question whether the soil of India is becoming exhausted has been discussed both by Dr Voelcker, who wrote the first report on Indian agriculture, and by the recent Agricultural Commission The view of the Commission is that "natural gains balance the plant food materials removed by crops and other losses," and that a balance having been established, "no further deterioration is likely to take place under existing conditions of cultivation" *

The Commission, perhaps, minimise the loss to Indian agriculture caused by the heavy export of oil-seeds, cotton, grain and bones. Decrease in the fertility of land, unless it is very marked, is not noticeable in a short period

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* *Agl. Report*, p 76.

But it can be easily understood that large exports of agricultural produce year by year must tend to bring about a gradual exhaustion of the soil The old saying that a country which exports large quantities of agricultural produce may be said to export the land itself contains an important element of truth

Even if the soil of India suffers no material loss on account of the export of agricultural produce, it is certainly not enriched by it Even if, under existing conditions of cultivation, a balance has been established, the balance must turn in favour of the land, tending to increase its productiveness, if means could be found of using the bones, which are now exported, for the benefit of Indian agriculture, and of developing the oil-crushing and other industries, so that more of our raw material could be consumed in India

Dr. Voelcker was convinced that under existing conditions the soil of India must become gradually poorer

"It must be accepted as an axiom in agriculture," he says, "that what is taken off the land in crops must in some way be put back into the soil, or else the soil will suffer exhaustion It is an equally accepted fact that the production of heavier crops means that more manure must be applied to the land A country which exports both crops and manure must be declining in fertility Now what is the state of things as regards India? On the one hand there is a large export of oil-seeds, cotton and other products, besides an increasing one of wheat, all of which remove a considerable amount of the soil-constituents. What is returned in their place? Only the straw or the stalks and leaves, and it is not even correct to say that these are returned, for, after all, it is only a portion, and frequently a very small portion, that does find its way back to the soil Part is necessarily used up in the bodies of the cattle, part is wasted by imperfect conserving and storing of manure, part must unavoidably be lost, however great the care that may be taken, thus it comes about that it is only a fraction that contributes finally to making up the loss the soil has sustained

"Were, on the contrary, all grain to be consumed by the people, and all nightsoil to be used in agriculture, were all refuse of oil-seeds (after pressing out the oil) to be utilised for manure, were all straw to be consumed by cattle, and the droppings, solid and liquid together, to be carefully preserved, lastly, were all stocks and leaves to be buried again in the land, then the balance might be more nearly preserved. But as things are, the exports of oil-seeds, grain, &c , (that of bones I will discuss later) simply means so much of the soil constituents *carried off*, for which no adequate recompense is made

The consequence must be that the soil becomes gradually poorer, though the effect may not as yet be visible to the eye , for even if the soil be still producing the same crops, the *potential fertility* (by which I mean the reserve of constituents for the production of future crops) must be suffering loss, and the capabilities of the soil must be less than under a system of equal giving and taking.'' *

It may be noted that in 1890-91, the total quantity of manure exported was 62,698 tons, and in 1928-29 117,967 tons—an increase of 88 per cent Again in 1890-91, the total quantity of oil-seeds exported was 739,950 tons, and in 1928-29, 1,328,410 tons—an increase of about 80 per cent

While the Agricultural Commission have recorded their opinion that a balance has been established between natural gains and the plant food materials removed by crops and other losses, they have produced no evidence in support of their conclusion Records of yield in different parts of the country extending over a period of 50 or 75 years do not exist, and in their absence it is as easy to say that a balance has been established as that it has not

Dr Voelcker did not accept the view, which has found favour with the Agricultural Commission, that when land is cropped year by year, and when the crop is removed and no manure is added, a stabilised condition is reached. What happens is that after a certain level has been reached, deterioration goes on very slowly, but, " it does go on " Dr Voelcker quoted the results attained at Rothamsted in the case of a wheat crop continuously unmanured for 40 years, which are reproduced below

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* *Report on the Improvement of Indian Agriculture*, pp 39-40

	Average produce of corn per acre in bushels
8 years, 1844-51 (previous to commencement of experiment)	17
20 years, 1852—71 (experimental period)	13 9
20 years, 1872—91 ,,	11 1

" That positive evidence of exhaustion in the soils of India," Dr Voelcker concludes, " is not yet forthcoming is no proof, therefore, that the process is not slowly going on "*

The Agricultural Commission examined the case for restricting the export of oil-seeds, and reached the conclusion that Indian agriculture was not likely to reap greater advantages from the supply of combined nitrogen available in our large crop of oil-seeds by restricting their export " The only methods by which these advantages can be secured are by the natural development of the oil-crushing industry coupled with great changes in cattle management and in the use of fuel "† This is an argument for doing just nothing at all. The oil-crushing industry has been developing naturally during the past 50 years, and it will continue to develop naturally for another 50 years—without developing at all

Cattle manure is practically the only manure used in India The Indian cultivator is not ignorant of its value, and less of it would be burnt as fuel if wood could be made cheap ‡

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* *Voelcker's Report*, p 37

† *Agl Report*, 89

‡ " As the result of my enquiries, I feel I may safely assert that where the practice of burning dung as fuel prevails among the *genuine* cultivators, it arises in eight cases out of ten, from the scarcity of firewood The other causes are, a deficiency of water , the land (as in the Central Provinces and silt-renewed tracts of the Punjab) not requiring

Propaganda against the burning of cattle manure will never achieve any great success unless some satisfactory solution of the fuel problem can be suggested

Dr. Voelcker regarded the problem of manure as not less important than that of water Water and manure are the cultivator's two great needs, " and in their supply," he said, "consists very largely the Improvement of Indian Agriculture" He advocated the establishment of " Fuel and Fodder Reserves" for the purpose of supplying wood to take the place of cattle-dung as fuel The Government have made praiseworthy efforts to improve the water-supply, and they supply canal water to the cultivator Why not fuel as well ? " The present system," by which Dr Voelcker meant the system under which there is an increasing tendency to export both crops and manure, " is one of gradual soil exhaustion, which must end in a decline, slow it may be, but still a decline of fertility and of productive power "*

Another formidable obstacle to the improvement of agriculture is the existing system of the ownership of land and the sub-division and fragmentation of holdings which are its inevitable results A special enquiry into over 2000 villages scattered throughout the Punjab revealed that 17 9 per cent of the owners' holdings were under 1 acre , a further 25.5 per cent were between one and three acres , 14 9 per cent between three and five acres; and a further 18 per cent between five and ten acres—in other words, about 43½ per cent of the holdings were of less than 3 acres, and over 58 per cent of less than 5 acres.

Figures of subdivision of cultivation, to which reference has been made in a preceding Chapter, may again

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manure , and, lastly, bad cultivation, which generally means by castes agriculturally inferior " (*Voelcker's Report*, p 103)

* *Voelcker's Report*, p 132.

be quoted here. In the Punjab 22 5 per cent of the cultivators cultivate one acre or less, a further 15.4 per cent cultivate between one and two-and-a-half acres; 17 9 per cent between two-and-a-half and five acres and 20.5 per cent between five and ten acres. We have also seen that conditions in the Punjab are not exceptional; excepting Burma, conditions in other parts of India are the same or still worse

The Hindu and Muhammadan laws of inheritance not only lead to a constant diminution in the size of the holding, but to increasing fragmentation of holdings The claims of equity are satisfied by the division of each field amongst heirs, but at a terrible cost to the agriculture of the country In extreme cases fragmentation has produced ludicrous results, but even cases in which fragmentation has not been carried to excess, it causes great waste of time and energy, and makes the improvement of agriculture an impossible task *

Fragmentation of owner's land would, by itself, produce fragmentation of cultivation, the evil is increased by the efforts of small owner-cultivators to secure more land for cultivation wherever they can get it. Similarly, the same tenant often cultivates small fragments of land in different parts of the village, owned by several permanent right-holders. In Pimpla Soudagar Dr Mann found that 62 per cent of the cultivators' plots were below one acre, and in Jategaon the percentage was 31 In Bairampur Mr Bhalla found that 34 5 per cent of the

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* In extreme cases, the result is ludicrous in Ratnagiri, for instance, the size of individual plots is sometimes as small as 1/60th of an acre, or 30¼ squares yards, in the Punjab fields have been found over a mile long but a few yards wide, while areas have been brought to notice where fragmentation has been carried so far as effectively to prevent all attempts at cultivation" *Agl. Report*, 134

cultivators had over 25 fragments each. Other village enquiries have yielded evidence to the same effect "*

The consolidation of holdings is a remedy against fragmentation and it has been tried with success in the Punjab The process of consolidation, however, when it depends on voluntary agreement, is a slow and difficult one

There is no remedy against the sub-division of holdings which does not involve interference with the laws of inheritance In the Punjab Canal Colonies attempt has been made to check sub-division by restricting the right to alienate land and, in the case of certain grants, by limiting succession to a single heir But in such cases the owners are rich enough to provide for the younger branches In the case of the ordinary right-holder, if succession were limited to the eldest son, the younger brothers would simply starve

Here then we are confronted with a problem which is insoluble unless drastic remedies are applied Further, the position, bad as it is at present, must become progressively worse in the course of time

The Agricultural Commission devoted much attention to the methods of improving Indian agriculture. Their principal recommendation, to which effect has been given, was the establishment of an Imperial Council of Agricultural Research with an initial grant of Rs 50 lakhs from Central revenues, to which additions should be made from time to time The Council of Agricultural Research has been established In the Budget of the Central Government for 1929-30, a provision of 16 4 lakhs was made for agricultural research, of which only 1 4 lakhs represented normal recurrent expenditure and 15 lakhs represent the initial grant to a total Endowment Fund of 25 lakhs. The remaining 10 lakhs will be provided in 1930-31.

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* *Agl Report*, 135.

This initial Endowment Fund will be supplemented with an additional voted endowment of 5 lakhs each year The work of the Imperial Council of Agricultural Research will be to promote and co-ordinate research throughout India and to link it with research in 'other parts of the world.

Agricultural research, valuable as it is, unaided will not reform Indian agriculture. The sub-division of land would not be checked, the waste of human and bullock, labour would not be reduced, and the methods of cultivation, broadly, would not change unless Indian agriculture is fundamentally re-organised and modernised Agricultural research alone will not solve all agricultural problems

The essence of agricultural reform, in my judgment, consists in three things (1) diversion of surplus agricultural labour to manufacturing industries by the adoption of an intensive policy of industrialisation, (2) nationalisation of agricultural land and (3) active participation of the State in agriculture.

(1) The first steps towards the establishment of a Department of Agriculture in India were taken at the suggestion of the Manchester Cotton Supply Association. The proposal for the establishment of a Department of Agriculture was first made by the Commission appointed after the famine in Bengal and Orissa in 1866 But nothing came of the proposal The proposal, however, "was revived in 1869 at the instance of the cotton trade which has frequently exercised considerable influence in shaping the agricultural policy of the Government of India"* The Manchester Cotton Supply Association urged that measures should be undertaken to improve cotton, and this finally led to the creation of the Department of Revenue, Agriculture and Commerce in 1871

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* *Agl Report*, p 15

Long before the Manchester Cotton Supply Association made their proposal, Milburn had drawn the attention of the authorities in England to the possibilities of India as a source of raw material for the British cotton industry Writing in 1819, he pointed out that cotton of very superior qualities could be produced in India, in quantity amply adequate to the consumption of Great Britain, and that it was "obviously to the interest of this country to encourage the importation of this raw material, rather than the manufactures of India'*

Immediately before the creation of the new Department in India we find Mr J C Ollerenshaw thus referring to the activities of the Association

> 'Public attention has of late been very strenuously directed to India as a cotton plantation The persistent and praiseworthy exertions of the Cotton Supply Association have forced this view alike on public interest and Government care There is, however, another relation which our Indian Empire bears to our cotton industry which has been somewhat overlooked—has indeed been excluded from due consideration India is not only a cotton plantation it is also a great cloth market. It is not enough that the Hindoo should send us large quantities of cheap cotton He should also buy from us large quantities of cloth at a fair profit to us for making it "†

It was in pursuance of this policy that free trade was forced on the country in 1878-82 Just when the Famine Commission of 1880 wrote that the complete remedy for the widespread distress and suffering caused by famines was to be found "only in the development of industries other than agriculture and independent of the fluctuations of the seasons" ‡ we adopted a tariff policy whose only result could be the destruction of manufacturing industries and *increase* in the proportion of the total population dependent upon agriculure

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* *Oriental Commerce*, Vol I p 279

† *Transactions of the Manchester Statistical Society*, 1869-70, p 109

‡ *Report of the Famine Commission of 1880, Part I*, sec 103 In Part II, sec 1 the Commission again refer to the subject "We have elsewhere expressed our opinion that at the root of much of the poverty of the people of India, and of the risks to which they are exposed in seasons of scarcity, lies the unfortunate circumstance that agriculture forms almost the sole occupation of the mass of the population, and that no remedy for present evils can be complete which does not include the

A large part of the extravagant emphasis that is laid on the development of our country's agricultural resources is explained by the post-war ideas of strengthening the economic position of the British Empire

The position of the industrial countries of Europe generally in regard to the supply of raw materials for their industries is very different to-day from what it was 30 years ago [*] The export of agricultural products from some of the leading agricultural countries is declining The United States has already ceased to export her more important raw materials—she wants them for her own industries It follows that other countries must be encouraged to provide these raw materials

We have adopted a policy of lop-sided development in the name of improvement of agriculture. One example will suffice The Indian Cotton Committee was appointed in 1917-18, and as the result of its report the Indian Central Cotton Committee was constituted in 1921 The Institute of Plant Industry, Indore, was established in 1924 The chief object of the Central Cotton Committee as well as of the Indore Institute is to promote agricultural and technological research on cotton No one says that research on cotton is useless, but unless we are to grow improved qualities of cotton in order to export them to foreign countries, at the same time that we are improving our cotton we must take active steps to develop the cotton mill industry.

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introduction of a diversity of occupations, through which the surplus population may be drawn from agricultural pursuits, and led to find the means of subsistence in manufactures or some such employments ''

[*] Prof. W. Sombart's address to the *Verein fuer Sozialpolitik* printed in *Verhandlungen des Verein fuer Sozialpolitik in Zuerich, 1928* *Wandlungen des Kapitalismus etc* Stenographic report of the proceedings Duncker and Humblot, Muenchen and Leipzig, 1929.

The principle may be laid down that the development of agriculture must proceed in relation to that of manufacturing industries, for the aim of Indian agriculture must be to provide a basis on which the industrial system of India, and India alone, might be built up The attempt to build up two industrial systems on the agriculture of one country must mean the ruralisation of that country

At the present moment there is greater need than ever before of the initiation of a policy of rapid industrialisation, for thus alone can the growing pressure of population on the soil be reduced A change in the industrial policy of the country will have a profound influence on agriculture and the agriculturist the statement that agricultural reform is impossible without industrial progres may appear paradoxical, but is true under existing conditions

(2) The proposal to nationalise agricultural land may be considered from various points of view, but the most solid argument in its favour is that Indian agriculture in no part of the country is so prosperous that it can support a class of parasites

Under Akbar, as we have seen, the produce of the land was shared between two parties only—the tiller of the soil and the State The landlord is the product of British rule, and the question may be asked whether the growth of this exotic product has benefited agriculture.

The landlord claims a share of the produce of the land just because of the fact of ownership of what was originally a free gift of nature

The *batai* cultivator, for example, bears all the expenses of cultivation, sharing only the water rate and the land revenue with the landlord In the case of the 18 tenants of the Lyallpur district studied by Mr Stewart, as we have seen, while the tenant, on an average, earned Rs. 19 per acre, which was the reward of his toil, the landlord reaped Rs 30 for doing nothing at all.

Even in the Punjab, the land of peasant proprietors, the distribution of land among owners is very unequal. The greater proportion of the cultivated land of the Punjab is owned by a very small proportion of owners. The estimated total number of owners in the Punjab is 3,500,000, and the amount of the cultivated area 29,000,000 acres. The details regarding ownership are as follows —

Number of owners	Per cent of total number of owners	Land owned, acres	Per cent of total cultivated area
(*a*) 625,400	17 9	313 000	(about) 1
(*b*) 1,428,000	40 1	3 200,000	11
(*c*) 919,000	26 2	7,753 000	26 6
(*d*) 313,000	11 8	10,300,000	35 6
(*e*) 121,000	3 7	7,452,000	25 7

It is found that 58 3 per cent of the owners possess not more than 12 per cent of the land while 15 5 per cent of the owners possess 61 3 per cent of the land Taking all owners together, 84.5 per cent possess 38 6 per cent of the land.*

The owners of class (*a*) possess less than 1 acre of land, (*b*) from 1 to less than 5 acres, (c) from 5 to less than 15 acres, (*d*) from 15 to less than 50 acres and (*e*) fifty and more acres

It is obvious that the great majority of the owners of classes (*d*) and (*e*) do not cultivate their lands but simply live on rent Mr Calvert noted that "almost every person paying Rs. 25 and upwards described himself as living on rents "†

The average land revenue per acre of cultivation is about Rs. 1-9-5, so that an owner paying Rs. 25 or more as land revenue possesses about 15 acres of cultivated land or more

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* *The Size and Distribution of Agricultural Holdings in the Punjab*, *by H Calvert*, p 4.

†*Ibid*, p 3.

The Punjab Alienation of Land Act of 1901 prevents non-agricultural castes from buying land from a member of an agricultural tribe, or taking it on mortgage for more than 20 years The Act was directed against the Hindu money-lender. It was not considered desirable that non-agriculturists should acquire possession of agricultural land

Now the landlord living on rent is no more an agriculturist than the village money-lender

The money-lender exploits the cultivator, still he is useful to agriculture, it is certain that if the race of village money-lenders suddenly became extinct, Indian agriculture, in the present stage of development of co-operative credit, would suffer grievously from lack of capital But what are the services rendered by the landlord ? Land existed before the landlord appeared, and it will continue to exist after he has disappeared His disappearance, on the other hand, will enable the cultivator to enjoy the whole fruits of his labour, sharing his produce only with the State

We have adopted in the Punjab a definition of "agriculturist" which can only be characterised as absurd.

The agriculturist is a person who tills the soil, not one who is born in a particular caste or follows a particular religion The agricultural policy of the country must be shaped solely in the interests of the peasant, not pseudo-agriculturists The peasant forms the backbone of our entire community, and yet he is regarded as of so little importance that he is practically unrepresented in our legislatures On the 25-rupee revenue basis the qualified rural voters are owners who possess at least 15 acres of land. Mr. Calvert estimates that they are less than 8 per cent of the total number of owners;* and they must be largely those who live on rent

The legislators elected by such voters do not represent the interests of peasants, but of those who live on the fruits of the peasants' toil Such is the "Rural Party" in local Legislatures

(3) Nationalisation means getting rid of a useless class of intermediaries and substituting for it an active partner in agriculture. Apart from increasing the income of the non-owner cultivator immediately and substantially, the nationalisation of agricultural land offers other material advantages to Indian Agriculture

(a) Nationalisation will not reduce the numbers dependent upon agriculture, for that we must depend upon the progress of industries But it will greatly facilitate the process of consolidation of holdings, and make it possible for farms of convenient size to be cultivated jointly and more economically

(b) Nationalisation offers the only hope of modernisation of Indian agriculture

The improvement of agriculture under existing conditions is difficult. The small-holder does not possess the means of intensifying his agriculture, and he will never be able to substitute the more economical machine for the more expensive bullock labour It will perhaps be said that human labour is cheap in India This is so on account of the excessive numbers that agriculture has to support. But is it really economical to have ten men to work on the land when two or three, aided by a machine, will be sufficient?

There is enormous waste of human labour and cattle-power under the existing system In the study of *batai* tenants referred to above Mr. Stewart has shown that the average for all the tenants is 170 working days in the year. As for bullocks, they have to be fed for the whole year while in the case of these tenants they worked for only three months Mr Calvert finds that the number of bullocks per 100 cultivated acres is large in districts with a high proportion of owners owning less than 10 acres. In Lyallpur there are 14·2 bullocks per 100 cultivated acres, but in Ambala 19 7, Hoshiarpur 25 7, Jullundur 25 9, Kangra 37 7 and Simla 63·3 The larger the number of owners, the larger must also be the number of bullocks, although a smaller number would be sufficient for purposes of cultivation

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* Size and Dist of Agl Holdings in the Punjab, p 5.

Is bullock labour, as it is used at present, cheaper than power machinery ?

It will perhaps be said that co-operative consolidation of holdings societies provide a remedy against the fragmentation of holdings, and that the present individualistic farming may be replaced by co-operative farming with machinery and implements owned by the cultivators in common Co-operation, however, does not solve the problem of the landlord The landlord will remain and continue to exploit the peasant until he is expropriated In the second place, nationalisation, as applied to agriculture, may be regarded as a further development of the co-operative principle Co-operation was created in India by Government, and the movement is wholly controlled by Government This may be right or wrong, but such is the essence of Indian co-operation The movement will be further developed under nationalisation, and it will be through co-operative better-farming and other societies that agricultural reform will be effected It is obvious that the State's programme in regard to consolidation of holdings and joint-cultivation of farms by associated groups of peasants could be more easily carried out when obstacles to progress did not exist in the shape of private rights of property in land.

The substitution of an active partner in agriculture for the landlord will be of immense benefit to agriculture. It should not be forgotten that at present Government (1) supplies water to the cultivator, (2) brings to the cultivator knowledge of improved varieties of crops and improved implements; (3) takes some share in the distribution of pure seed, and (4) guides and controls the co-operative movement whose object is to finance the cultivator. There is no difficulty in imagining a further extension of Government activities until they include (1) the provision of cheap fuel to take the place of cattle-dung, which would be set free for us as manure, and (2) the provision of such machines as can be advantageously introduced.

The nationalisation of agricultural land may be brought about peacefully by an act of State, or it may be left to circumstances The destruction of old industries and increase in the pressure of population on the soil, combined with the inevitable effects of the continuous sub-division of land, have created a situation which is unsatisfactory in the extreme, whether viewed from the standpoint of production or that of the cultivator. It is impossible to think that these conditions will continue for long without change.

The nationalisation of agricultural land will be India's first experiment in socialism There are many defects of socialism, but it is necessary to point out that the arguments generally urged against the application of socialistic doctrines to industry in the West have little force in the present case. Prof. Hearnshaw, for example, says :—

> " We ask the socialists what motive to produce they propose to substitute for that private enterprise, that hope of profit, that desire for independence, that passion to provide for wife and children, that ambition to excel in the world, that aspiration after honourable place and creditable power, which have been the main inducements to economic activity up to the present, and the chief factor in industrial progress? For under the social-

istic regime all these individualistic and competitive motives will be damped down as indecent, and disallowed "*

It will be ridiculous to speak of "enterprise," "hope of profit," "desire for independence," "passion to provide for wife and children." etc in the case of the non-owner cultivator of less than 5 acres, who has to part with one-third to three-fifths of his produce as the price of the use of land. Under the existing system while, in theory, the greatest incentive to the production of wealth exists, in practice, owing to the conditions under which the agriculturist works, the wealth that he produces is small. Owing to the illiteracy and ignorance of the peasant, the incentive to improvement must come from the State. So far from destroying hope, nationalisation is the only means of inspiring the peasant with hope , and, by increasing production, it is the only means of assuring a larger income to the agricultural community

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* *Survey of Socialism*, pp. 357-58.

CHAPTER XXI

IRRIGATION AND WATER-LOGGING

Taking British India as a whole, the proportion of area irrigated from all sources to the total area sown† is about 20 per cent The area irrigated in 1920-21 was the largest yet recorded—50 6 million acres irrigated out of a total of 260 6 million acres sown (gross†), or 22 per cent In 1926-27 out of a total of about 256 million acres sown, about 47 8 million acres were irrigated, or 18 7 per cent of the total

The importance of irrigation varies in different parts of the country In Sind cultivation is almost entirely dependent on irrigation, the percentage of irrigated to total sown area in Sind being about 74 This percentage for the year 1926-27 was for the Punjab 45, North-West Frontier Province 38 5, United Provinces 24 4, Madras 24 1 and Behar and Orissa 17 5 Sind and the Provinces named are the parts of the country where irrigation is most important

Of the 47 8 million acres irrigated in 1926-27 in the whole of British India, the areas irrigated by different sources were as follows —

Irrigated by	*Million acres, (gross)*
Government canals	21 0
Private ,,	3 7
Wells	12 0
Tanks	5 6
Other sources	5 5
Total	47 8

In 1926-27 the net area cropped in the whole of British India exceeded 220 million acres, of which 28¼ million acres or 12·8 per cent. of the whole, were irrigated by Government irrigation works The value of the crops raised on areas receiving State irrigation is estimated to be about 140½ crores.

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† Includes area sown or irrigated more than once

The reader is supposed to be familiar with the principal irrigation works in India, and particularly in the Punjab The most wonderful of these is the Triple Canals System, which irrigates the Lower Bari Doab, lying between the Ravi and Sutlej rivers. It was completed in 1917 and commands an area of 4 million acres.

The irrigation projects under construction or consideration in the Punjab are (1) the Sutlej Valley project, (2) the Thal project, (3) the Haveli project and (4) the Sutlej Dam project It is expected that the Sutlej Valley project will be completed in 1933-34 and provide perennial irrigation for 2 million acres, of which over 1½ million acres will be in the Bahawalpur and Bikaner States This is the only large project at present under construction in the Punjab The progress of the Thal project was stopped on account of the dispute which arose between the Governments of Bombay and the Punjab regarding the waters of the Indus, but the dispute has now been settled. The project will command an area of about 1½ million acres in the Sind Sagar Doab in the districts of Mianwali and Muzaffargarh The Haveli project, it is expected, will provide perennial irrigation for about 700,000 acres in the Jhang and Muzaffargarh districts.

The Sutlej Dam project will be a storage work. It is proposed to construct four storage reservoirs, which would provide enough water for *rabi* cultivation for 2 million acres between the Sutlej and Jumna rivers

In Sind the Sukkur Barrage, when completed, will irrigate over 5 million acres

The construction of the Sarda Canal will add 1·7 million acres to the canal-irrigated area of the United

Provinces, which is at present 3 million acres. There is very little further scope for the development of canal irrigation in this Province. Irrigation in the Madras Presidency is by means of storage works. There are three projects under construction or consideration for the utilisation of the waters of the Kauvery, Kistna and Tungabhadra rivers.

Tube-wells as a means of irrigation have been recently tried in the United Provinces and the Punjab Irrigation from tube-wells has been found to be expensive. According to the Director of Agriculture in the United Provinces, it pays only when valuable crops like sugarcane, potatoes and tobacco are grown by intensive methods of cultivation.

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While there cannot be any dispute about the benefits of canal irrigation, its rapid development in the Punjab has given rise to one of the most serious problems that the Province has ever been confronted with—water-logging.

The consequences of water-logging are so terrible, whether viewed from the stand-point of the fertility of land and agricultural production, or that of the general health of the population, that the subject is well worth our attention

There is no agreement as to the precise definition of water-logging, but for our purposes we may define the term as the rise in the level of sub-soil water which renders land unfit for cultivation.

The approach of the danger is marked by certain well-known stages. At first, for one or two years, *barani* crops are unusually successful and there is a spontaneous growth of a rich crop of *maina.* In the third year patches *kallar* (salts) begin to appear on the affected fields, and seed does not germinate on these patches. Yields begin to diminish and the patches extend until they cover the whole field. Depressions in close proximity to the canal remain permanently damp and have water of a rusty colour. The spring level rises and comes close up to the surface of the land. Houses in the *abadi* begin to crumble to dust and eventually collapse An abnoxious odour is emitted by *abadies*, and drinking water tastes raw

Water-logging is due to the rise in the spring level. When it has risen so much that it is only within a short distance of the ground surface, water is drawn up by capillary attraction, as a piece of blotting paper, whose edge is dipped in water, sucks up water The affected land then is covered with *kallar* and finally it is turned into a swamp.

As to the extent of the water-logged area we learn from the *Punjab Irrigation Report* for 1926-27 that the area actually thrown out of cultivation by the rise of sub-soil water to the ground surface is about 125,000 acres. This is comparatively small—a little more than 1 per cent. of the total area irrigated by the Punjab canals, but in addition to this area there is a larger area in which cultivation has been stopped by the appearance of *kallar* which, being present in the soil, has been driven to the surface by the rise of the water-table The Punjab Administration Report for the same year says that there is danger of expansion of water-logging to the extent of 700,000 acres more. Roughly, the area actually water-logged and which is seriously threatened by water-logging in the near future, is about 8 per cent of the area receiving state-irrigation in the Punjab This is by no means small. We have also to remember that the greater part of the water-logged area lies only in a small number of districts, and it must mean great hardship and suffering for the affected villages.

The districts affected are Sheikhupura, Gujranwala, Karnal, Ambala, Amritsar, Lahore, Sialkot, Shahpur and Jhang (Chiniot *tehsil*) Water-logging is spreading in Lahore It is very bad in Sheikhupura and Gujranwala.

We have seen that the rise in the spring level is the chief cause of water-logging What is the spring level and how and why does it rise?

If a well is sunk in any place, water is found at a certain depth. It may be nearer the surface in one place and at a greater distance in another Suppose water is found at a distance 20 feet from the ground surface In technical language it will be said that the spring level or the water-table is 20 feet below the surface. Now if the water were pumped out, the well would be found to be full again after a certain time

More exactly, the spring level may be defined as the level up to which the underground soil is completely saturated with water. The terms spring level and water-table are often used interchangeably, but the "spring level" refers to a particular locality, say a village, while the water-table refers to a wider area

The sources of sub-soil water in a tract are mainly three —

(1) Percolation from the rivers and hills bounding the tract

(2) Rainfall

(3) Percolation of canal water, which may be subdivided into percolation (*a*) from main canals and branches, (*b*) from distributaries, (*c*) from water-courses and (*d*) of water put on the land.

Percolation of water from rivers can never cause water-logging. The level of water in a river is much below the ground surface and the spring level cannot rise above the river level (canal irrigation is flow irrigation, or by gravity, and the level of water in the canal must be higher than the ground level).

Secondly, water-logging is never caused by rainfall. In the first place, when light rain falls on thirsty soil, the soil, as it were, drinks it up In such a case no water percolates to the water-table

Suppose now there is a heavy and continuous downpour of several days A considerable part of it would be immediately carried away by surface drainage, a part would be lost by evaporation and part by transpiration through vegetation The remainder, a very small proportion of the total rainfall, will percolate to the water-table and cause it to rise but temporarily After the rains are over, in the dry period which follows, the water added to the sub-soil reservoir will be carried away by the sub-soil flow, and the water-table will be reduced to its previous normal level.

Of course when, on account of the canals, the spring level has already risen in a tract to within a short distance of the ground surface, rainfall may raise the spring level further, and water-logging may appear But its appearance will be temporary, and it will disappear in the dry period following the rains

The action of canals on the water-table is both direct and indirect Indirectly, when a canal has been so constructed that it intersects all the drainage lines of a tract, like the old Western Jumna Canal, by obstructing the surface drainage it will cause rain or flood water to be held up, and some of this water must, passing through the sub-soil, be added to the water-table This also applies to irrigation channels and zamindars' embankments which obstruct the natural drainage of a tract

As for the direct action of canals, if nothing intervened between the bed of a canal and the spring level, water percolating from the canal would fall vertically until it reached the spring level But the whole space between the spring level and the canal bed is filled with soil. The soil nearest the sides and the bed of the canal first gets moist, and percolation goes on spreading on all sides until the spring level is reached. The spring level then begins to rise The water added to the spring level would tend to flow away, but when the inflow of water owing to percolation exceeds the sub-soil outflow, the spring level continues to rise until equilibrium is restored by its rising above the ground level When this happens, the whole of the area surrounding a canal becomes water-logged

It has been estimated that of the water taken in at the head works of the Punjab canals, about one-third is lost in the main canals and branches. Of the remaining water, that is water in the distributaries and water courses, and that supplied to the fields for actual irrigation, also one-third percolates to the soil to raise the spring level

In certain tracts, such as the Upper Bari Doab, we are told that equilibrium has been reached as regards the inflow and the sub-soil outflow of water and the spring-level there is not rising 'In others," says Mr Wilsdon, " there are no signs that such an equilibrium will be attained before the water-table reaches the surface of the soil, whereby much valuable agricultural land will become lost to cultivation ' Mr Wilsdon refers to the steady rise of the water-table in these tracts and says "We are thus faced with the immediate problem of saving valuable land and cities threatened within a few years, as well as the ominous trend of the water-table "*

It should be noted that any rise in the water-table is not disadvantageous In fact, among the indirect benefits of irrigation, mentioned by the Irrigation Commission of 1901—03, was "the effect of irrigation and of large water storage works in increasing the humidity of the air, and in raising the level of the underground water supply" The rise in the level of sub-soil water is advantageous as it makes well-sinking and the working of wells easier. It is also good for the crops as it increases the moisture of the soil An expert witness stated before the Agricultural Commission that if the sub-soil water can be kept at a certain depth below the ground level, 15, 18 or 20 feet, that water-table is a gold mine * The water-table ceases to be a gold mine and becomes a curse only when it rises to within a short distance from the ground surface, say 3 or 4 feet It then becomes a grave source of danger to public health as well as to cultivation In the interests of health the water-table must not be allowed to rise to a distance of 8 to 15 feet from the ground surface

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*Agl. Com Evidence. Vol. VIII p 410

Water-logging is an old problem and it has a history

The worst instance of water-logging is perhaps that related in the District Gazetteer of Karnal (1892) on the Western Jumna Canal about a hundred years ago It produced such horrible results that one hopes that the lessons taught by this history will never be forgotten

The Western Jumna Canal is an old canal It was constructed by Firoze Shah Tughlak in the 14th century. Water was taken from the right or western bank of the Jumna and carried over a distance of about 150 miles to irrigate the King's favourite hunting ground at Hissar The canal silted up during the reigns of Firoze Shah's successors, but it was repaired during Akbar's reign by the Governor of Delhi for the irrigation of his private estates The canal stopped again about the year 1647 It was repaired under the direction of Ali Maidan Khan, the celebrated engineer of Shah Jahan, and a new channel excavated to carry water into the city of Delhi. During the decline of the Moghul Empire the canal again

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* Agl Com VIII, p. 457.

gradually silted up until it ceased to flow. One does not know when the next repairs were carried out, but in 1820, 155 acres were irrigated from the canal and the irrigated area increased rapidly to 33,000 acres in 1825 and 321,000 acres in 1840

A famine visited Karnal in 1833-34 and caused heavy loss of life. The famine gave a great impetus to canal irrigation The demand for water increased and the area irrigated was limited only by the means of supply. The failure of the rains in 1836-37 increased the demand for canal irrigation still more. Strenuous efforts were made by irrigation officers to increase the supply, and every facility was offered to such villages as would make use of the water In most cases the old imperial water-cuts still existed, which the village people were allowed to clear out and use or they made themselves a channel straight from the nearest point on the canal from which water would flow to their fields The Government constructed new large distributaries and deepened, enlarged and extended the old ones. The main channels were also deepened and their banks raised till the water in them touched the crown of the arches in the bridges Most of these extensions were made hurriedly under the pressure of urgent need The system of embankments of the canal had been constructed with so little reference to the natural drainage that it intersected all the drainage lines of the tract and threw back the surface water over the surrounding country. The carrying capacity of the canal, whose alignment was faulty, and of the channels, says the District Gazetteer for Karnal, "has been so increased that in most part the surface level of the water, and in some places the bed of the canal, is above the surrounding country, and the water is thus forced into the sub-soil by hydraulic pressure."

In addition to this forcing of water into the sub-soil by hydraulic pressure, there was over-irrigation One may say that most canal-irrigated tracts suffer from over-irrigation, on account of the wasteful methods of irrigation practised by the cultivator Canal irrigation is not like well irrigation Every drop of well water costs time and effort Not a single drop of well water is wasted as it means so much labour for men as well as cattle But in the case of canal water the same reasons for economy do not exist A second important point may next be noted The well water is itself drawn from the sub-soil water When it is used for irrigating a field, a certain amount of it is lost by evaporation and transpiration through vegetation, and to that extent the sub-soil supply is reduced The canal water is not drawn from the sub-soil supply, and excepting that part which is lost like well-water, all the canal water that is used for irrigation represents an addition to the sub-soil supply

What was the combined result of a faulty alignment of the canal, a wrong system of embankments and over-irrigation? "The result is,' says the District Gazetteer "that the whole country is water-logged by the canal water being forced into it from below, while the cultivator drenches it from above" And when heavy rain came, it fell upon a country already saturated with water For miles and miles the whole country was covered with water

Not only was cultivable land thus turned into swamps, *kallar* soon appeared. It has been explained above that when sub-soil water has risen to within a short distance of the surface it is drawn up to the surface. On evaporation it leaves the salts it contains deposited, and this process repeated for several years covers the soil with a layer of alkaline salts, lying like fresh fallen snow, often 3 or 4 inches thick. The soil is now useless for cultivation. Such grass as is able to spring up in the saltimpregnated land gives the cattle diarrhœa, enfeebles and eventually kills them The whole country exhales from its putrifying vegetation a maleria which destroys the vitality of the cultivators and kills them by fever and spleen disease

In 1841 an epidemic of fever ravaged the whole of the Delhi territory and the mortality was so great that in many places the crops died for want of persons to look after them Two years later another and even more terrible epidemic devastated the country This led to the appointment of a committee by the Government of India to investigate the matter, and a further enquiry was made in 1867 by Surgeon-Major Adam Taylor Both enquiries conclusively proved that the effects of water-logging on the health of the people in the canal tract had been disastrous Another enquiry had been made by Mr Sherer in 1856 He showed that the water level had been raised by the canal from some 60 feet to, in many places, two or three feet from the surface, and that the fertility of soil had been very greatly diminished In his report he spoke of "the miserable disease engendered by the tainted water and malarious exhalations of the soil of the spectacle of sick women and diseased children crouching among the ruins of their houses (for in many cases the rafters had been sold), of haggard cultivators wading in the swamps and watching their sickly crops, or attempting to pasture their bony cattle on the unwholesome grass "*

We learn from the District Gazetteer that an estimate for remodelling the canal amounting to 72 lakhs was sanctioned in 1874 and this was increased to 102 lakhs in 1881 In 1885 a full supply was carried in the new main channel With the remodelling of the alignment of the canal, and the draining of the depressions in the ground surface by a well designed system of drains, water-logging ceased

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* **Karnal District Gazetteer, 1892, Appendix**

According to the last Settlement Report of the Sheikhupura Tehsil, the water table is rising at an alarming rate in the close vicinity of the main channel of the Upper Chenab Canal. In the villages lying close to its banks the wells are seen full to the brim As a result of the rise of the water-table, the estates lying on the channel of the Upper Chenab Canal have become seriously affected with water-logging, and unless the measures that the Canal Department is taking to arrest its progress are successful, the danger which is travelling apace will attack the more distant estates as well

Water-logging made its appearance in the neighbourhood of the Hafizabad tehsil of the Gujranwala District within a few years of the completion of the Lower Chenab Canal, and assumed dangerous proportions during the period 1908-09 to 1915-16 Water appeared along the canal and swamps were formed in other low-lying places further away The natural drainage depressions which had been obstructed by the construction of canal channels and its branches were opened and deepened , certain reaches of the main canal and branches were given a water-proof lining, and drains were constructed to carry away the surface drainage to the river. As a result of these measures the sub-soil water level, which had risen abnormally, has subsided. ' One injurious effect of the rise and fall in the sub-soil water level has been," says the Settlement Officer, " that salts present in the soil have come up to the surface and rendered the land unfit for cultivation "

In another part of the same report the Settlement Officer speaks of water-logging as having reached its worst point in the Hafizabad and Wazirabad tehsils.

The spring level was only some 7 or 8 feet below the surface in the civil station and other environs of Amritsar City in 1913 "Twenty years ago," says the author of the Settlement Report of the Amritsar District, 1910—14, "the last Settlement Officer estimated that the water level had risen about 10 feet in the Amritsar Tehsil between 1865 and 1892 owing to infiltration from the canal and to a smaller extent in the other two Tehsils" The rise steadily continued after 1892, which Mr Craik estimated at not less than 6 feet in 1914 where canal irrigation was most profuse Widespread floods had occurred in the Amritsar District after the very heavy rainfall of August and September 1908, followed by a severe epidemic of malaria, in which mortality "reached the appalling figure of a plague epidemic" The connection between water-logging and the epidemic was obvious, and efforts were made to improve sanitation by deepening and widening natural drainage channels, and the provision in some localities of artificial drains In 1911-12 again conditions in and around Amritsar became very insanitary, due to the steady rise in the sub-soil water level The proposal to curtail irrigation was considered, but the Settlement Officer was doubtful if such curtailment would have the desired effect of lowering the water-table, and he was certain that it would provoke great resentment among the peasantry. Canal irrigation, as is well known, costs much less per acre than well irrigation, and in all parts of the district the number of wells has steadily decreased with the expansion of canal irrigation Finally in 1912 it was decided to replace canal irrigation on about 9000 acres in the affected tract by water pumped from tube-wells The Amritsar pumping scheme consists of 15 tube-wells sunk in a line nearly 4 miles long with a pumping capacity of 30 cubic feet per second The scheme cost 5 lakhs. Financially it has been a loss, but the water-table is now three feet below what it was in 1913, and the sanitary condition of Amritsar has improved

The foregoing historical account of water-logging is interesting for two reasons first, it serves to illustrate the effects of water-logging, and second, it suggests the remedies

We have seen that when a canal is so constructed that it obstructs the natural drainage of a tract, a remodelling of the canal may be necessary This means the construction of a new channel, as was done in the case of the Western Jumna Canal at a cost of over a crore of rupees Fortunately, we are told, the later canals leave little to be desired in this respect

The question of improving the natural drainage of the country has been engaging the attention of the Government for a long time A Drainage Board was constituted in 1918 The Board dealt only with water-logging in rural areas and concentrated its attention on certain specific schemes in the Amritsar, Lahore and Karnal districts From the 1st April 1926 the Punjab Drainage Board was reconstituted under the name of the Rural Sanitary Board It is concerned with measures intended for the benefit of rural as distinct from urban areas, the latter being in charge of the Urban Sanitary Board

To prevent percolation from a canal to the water-table the banks and the bottom of the canal are sometimes water-proofed. The Gang Canal, which takes out from the Satluj at Ferozepore and carries water for irrigation to the Bikaner State, is lined for its entire length of about 82 miles with concrete. The lining of a canal is very expensive Apart from the cost of construction, the lining of the Gang Canal cost about a crore The expense of lining all the Punjab canals and distributaries would be enormous.

The lining of a canal is not simple. This may be judged from the statement of an irrigation engineer before the Agricultural Commission "There is one area," he said, "where water-logging threatens to be most severe There is a feeder canal called the Upper Chenab which takes water from the Chenab to the Lower Bari Doab It runs constantly, and is a big 200 feet canal with a depth of 10 to 11 feet How are you going to line such a channel as that ?"

Lining, again, is only a partial remedy. We have seen that of the water actually put on the land for irrigating a field, about one-third goes down to the water-table Lining will not prevent the rise of the water-table due to percolation from the fields and cultivators' channels

Apart from the opening out of closed and obstructed drainages, the only two remedies against water-logging which have been found to be effective are (1) replacing canal irrigation by irrigation from wells and (2) by pumping from sub-soil It is thought that as soon as the spring level in a tract tends to rise within 10 feet of the natural surface, the restriction of canal irrigation in the manner suggested is necessary to check the further rise of the spring level

It is a matter for regret that the area irrigated from wells in the Punjab has decreased steadily on account of the extension of canal irrigation to tracts formerly dependent on wells It amounted to 4 6 million acres in 1868-69, 3 8 million acres in 1918-19 and about 3½ million acres in 1926-27 The explanation lies in the fact that the cost of irrigation from canals is very small as compared with that from wells The figures given by the Agricultural Commission are Rs. 3-8 per acre for canal irrigation and no less than Rs. 22 per acre for irrigation from a well. In view of such a large difference in cost, it is not surprising that wells have been superseded by canals as the source of water supply in the areas served by the canals.

Incidentally it may be mentioned that the difficulties connected with the construction of wells by private enterprise are very great where the holdings are very small in size and where there is much fragmentation of holdings

It will be easily understood that the restriction of canal irrigation by turning some perennial canals into Kharif canals is resisted by the zamindar An example is given by R B Wazir Chand Chopra, Superintending Engineer, in his interesting note printed in Vol VIII of the Evidence given before the Agricultural Commission In the case of the upper reach of the Hafizabad Distributary, where irrigation was once abandoned on account of water-logging, and where some improvement had taken place as the result of the construction of seepage drains, the restoration of irrigation was contemplated for Kharif crops only, but, as a matter of fact perennial irrigation was sanctioned in the end.

It is obvious that where water-logging is threatened, canal irrigation must be restricted It means hardship for the cultivator on account of the much greater cost of well irrigation, but water-logging means disaster

We have seen that pumping from sub-soil has been successfully tried in Amritsar The chief hope of success in dealing with water-logging lies in the development of schemes of pumping sub-soil water by means of tube-wells This water can, of course, be utilised for irrigation in the place of canal water The cost, however, will be greater It is estimated that the cost of water pumped from the sub-soil will be about Rs 10 per acre. In order that the pumping installation may pay (in Amritsar it is working at a loss) the consumer may have to pay a rate of Rs. 12 to Rs 15 per acre compared to the present canal rate of less than Rs. 5 per acre.

In this connection the progress of the Mandi Hydro-Electric Project will be watched with great interest The object of the Mandi scheme is to utilise the waters of the river Uhl, which joins the river Beas at a point about 5 miles east of Mandi, for generating electric power The scheme is divided into three stages. When the first stage is completed sufficient power would be available to provide with electrical energy about 20 towns in the Punjab extending from Gurdaspur to Lyallpur, Ferozepore, Jullundhur, and Ludhiana When the whole scheme is in operation, power could be supplied to over 47 towns, extending from Delhi and Rohtak in the south to Sialkot and Lyallpur in the north, at a very cheap rate. The development of the scheme is of considerable importance from the point of view of remedial measures which are to be adopted for dealing with water-logging By providing a cheap source of power for the working of tube-wells, the Mandi scheme may make an important contribution to the solution of our problem

Finally, we may consider the means of preventing over-irrigation, or the enormous waste of canal water by the cultivator We have seen that over-irrigation must tend to increase the sub-soil water supply It has been estimated that the amount of excess water applied to crops such as wheat in Northern India is from 30 to 50 per cent In the Punjab water is charged for by the area of the crop matured, and the rate per acre differs for different crops When water is sold per acre, and not by volume, the cultivator has no incentive to be economical in the use of the water The Agricultural Commission were also of opinion that wastage is also caused by the uncertainty of supply. In the case of well irrigation, the source of supply, the well, is always at hand. The supply is certain. which renders it unnecessary for the cultivator to apply water to his crops in excessive quantities at any time, quite apart from the question of labour involved in working a well, which effectually prevents waste of well water "With canal irrigation," to quote the Agricultural Commission, "the cultivator often does not know definitely when the next watering will be possible, he therefore applies water in large quantities in the hope that this will tide him over the period of unknown length during which it is not available" (*Report*, p 335) The result is not merely an enormous waste of water, but damage to crops and the land

It is certain that if water were charged for by volume, the cultivator would very soon develop more economical habits in its use But irrigation engineers generally doubt if the sale of water by volume to small cultivators is practicable However, improvements have been made in the existing area system of distribution by means of which considerable economy of supply has been effected

The problem of water-logging is not insoluble. The question is one mainly of cost—that of finding the cheapest method of preventing an undue rise of the water-table This may be done by pumping from subsoil, by water-proofing the canals and distributaries, by improving surface drainage and sub-soil drainage through the construction of open drains along and at right angles to the canals, or by lying porous pipes under the fields to carry away the water percolating through them, as in Egypt But whatever the remedial measures adopted, the cost will be heavy and the cultivator will have to pay more for water than he does at present

CHAPTER XXII

Co-operation

The establishment of agricultural banks was recommended by the Famine Commission of 1901 The small cultivator all over the country was financed by the Mahajan, who charged exorbitant rates of interest Far from being a help to agriculture, the *Soucar* had become, as the Famine Commission pointed out, in some places, an incubus upon it

Even before the Famine Commission of 1901 reported, the subject of co-operation, as a means of providing finance to the small cultivator on reasonable terms, had attracted the attention of some Local Governments. The first step towards the investigation of the possibilities of establishing co-operative credit societies in India was taken in Madras An indigenous institution called *Nidhis* existed in that Presidency, which were organised on co-operative lines, and had a paid-up capital of 75 lakhs, with some 36,000 members The *Nidhis* were on the whole working successfully, and they suggested the establishment of co-operative credit societies in India The Madras Government deputed one of their officers, Mr (later Sir) Fred Nicholson to make a study of co-operation, and in 1899 forwarded his monumental report on the subject to the Government of India The Government of the United Provinces, similarly, had deputed Mr Dupernex to make enquiries into the subject in relation to Indian conditions, and his book entitled "*Peoples' Banks for Northern India*" appeared about the same time.

The proposal was then referred in its more general form by the Government of India to Local Governments for preliminary consideration and suggestions. The opinion of Local Governments were considered in June 1901 by a Committee under the chairmanship of the Finance Member, Sir Edward Law The Committee reported favourably in 1903, and a draft Bill attached to their report. The proposals of the Committee were referred to Local Governments for criticism, and when their replies had been received the Government of India took legislative action to create co-operative credit societies

New legislation was necessary as the old Companies Act of 1882, with its numerous sections and elaborate provisions, was unsuited to the new type of societies intended to be established Three things, chiefly, had to be done (1) the new societies had to be excluded from the operation of the general law, and provisions framed adapted to their constitution and objects, (2) it was desirable to confer upon them special privileges and facilities, and (3) it was necessary to take precautions with the object of preventing speculators and capitalists from getting control of them

The object of establishing co-operative societies was defined as ' the encouragement of individual thrift and of mutual co-operation among the members, with a view to the utilisation of their combined credit, by the aid of their intimate knowledge of one another's needs and capacities, and of the pressure of local public opinion "

A two-fold classification of societies into urban and rural was adopted In the case of both classes it was provided that the members must be small men, that they must be residents of the same neighbourhood, that new members shall be admitted by election only that loans must be made only to members, and that money shall not be lent on mortgage. Further, the interest in a society held by a single member was limited, so as to prevent an individual from obtaining control of the society; and in order to prevent speculation, shares were made transferable only subject to certain restrictions The Act passed in 1904 also provided a simple form of registration, and to deal with fraud. or bogus co-operative societies which might be established under the Act, power of compulsory dissolution, subject to appeal to the Local Government, was reserved

Other features of the Act of 1904 were as follows: unlimited liability was insisted upon in the case of rural societies. it was laid down that profits were not to be directly divided among the members, and that any surplus that might accrue, should either be carried to a reserve fund or be applied to reducing the rate of interest upon loans the society was forbidden to borrow money without sanction and pawn-broking was prohibited, but the society was allowed to receive agricultural produce as security, or in payment of a loan

Limitation of liability and the distribution of profits, subject to the creation of a sufficient reserve fund, were allowed in the case of urban societies

The priveleges conferred upon the societies by the Act of 1904 were as follows (1) shares and other interest of members in the capital of a society were exempted from attachment for private debts (2) societies were relieved from the necessity of letters of administration or a succession certificate, (3) they were given a *lien* upon certain forms of property when created or acquired by means of a loan from them until the loan was repaid and (4) an entry in the books of a society was made *prima facie* evidence in a suit to recover money due to it. The societies and their operations were also exempted from income-tax, stamp-duties and registration fees, and finally provision was made for compulsory inspection and audit of the societies by a Government officer.

The operation of the Act was restricted to credit only. The chief object of the measure, as we have seen was to relieve agricultural indebtedness.

The Act of 1904 was amended in 1912 and the amended Act is still in force throughout the country, except in Bombay and Burma, where it was replaced by local legislation in 1925 and 1927 respectively. The amendment of the Act of 1904 was necessary for the following reasons. (1) The Act of 1904 did not apply to co-operative societies established for production, distribution or other objects except the provision of credit. The establishment of credit societies had led to the founding of other classes of co-operative societies also and it was desirable that the privileges extended by the Act to co-operative credit societies should be extended to these other societies. (2) In the Act of 1904 societies were classified according as they were "urban" or "rural" and the liability of rural societies was unlimited. The distinction was found artificial and in practice inconvenient. In the Act of 1912 societies were divided into those with limited and with unlimited liability but the principle was retained that agricultural credit societies must, as a general rule, be with unlimited liability. (3) The Act of 1904 did not contemplate that societies with unlimited liability should distribute profits. Such societies however, had come into existence in several Provinces and were doing useful work. It was proposed to legalise their existence and to permit an unlimited society with the sanction of the Local Government to distribute profits. (4) The Act of 1904 was framed to meet the requirements of primary credit societies only; it made no provision for the higher finance of the movement. Unions and central banks are co-operative credit societies the members of which are other co-operative credit societies which they finance. They had naturally come into existence soon after the initiation of the movement, and it was necessary to recognise their existence.

The Act of 1912 incorporated these features

The early history of the co-operative movement in the Punjab is interesting

A few societies, organised on the co-operative principle, existed in the Punjab before the Act of 1904 was passed Mr (later Sir Edward) Maclagan and Captain Crosthwaite founded three societies in the Multan district in 1898, but they were short-lived The experiment in the Bhakkar sub-division of Mianwali was more successful Five societies were founded here by Captain Crosthwaite in 1900, and they were working satisfactorily in 1904 The first report on the working of the co-operative societies in the Punjab deals with the period of 5 months, from 26th October 1904, when Mr Wilberforce took over charge as Registrar, to 31st March 1905 Mr Wilberforce visited various districts of the Province with the object of explaining to the people the principles of the new movement, to select the types of societies to be founded, and to found the societies. He found that the people knew nothing about co-operation "The vast majority of the people," he says, "had not even heard of the Act and I did not meet one who had read it. They had merely heard a rumour that Government was going to relieve their indebtedness" It had been decided that societies should be founded in 5 districts which were selected as specimen districts of each of the 5 Divisions of the Punjab The districts selected were Karnal, Hoshiarpur, Montgomery, Mianwali and Rawalpindi Rawalpindi and Montgomery had to be left out as the proposal to start cooperative societies there did not receive encouragement from the local officers*

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*The local officers concerned were rebuked for discouraging the movement The "Remarks" on the first report on co operation in the Punjab contain the following "As regards the districts of Rawalpindi and

Prospects of success did not seem very bright in the Karnal district where 4 societies were founded. The societies, says Mr. Wilberforce, "are regarded as Government banks, and the experience of persons taking advances from Government has not always been happy, especially in Districts like Karnal, where the people have been accustomed for centuries to being plundered by petty Government officials At Shamgarh two members have ventured to borrow small sums Some of the depositors have also borrowed money to show that there is no danger of being plundered "*

The movement met with a certain amount of opposition on the part of the money-lenders They spread a rumour that those joining a society would be sued at once on either a real or fictitious claim, and treated with the greatest severity allowed by law against judgment debtors

The Tahsildars of the Karnal district were to assist Mr Wilberforce in persuading the cultivators to start societies An interesting example of how the Tahsildars interpreted their instructions, and of the methods of persuasion employed by them may be given here The Tahsildars thought that it was a Government order that societies should be started everywhere The Tahsildar of Kaithal therefore called the zamindars and lambardars of

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Montgomery, the Registrar seems not to have attempted operations because the Deputy Commissioners concerned discouraged him and in view of their attitude no other course was open to him But His Honour is unable to approve of the action of these officers, who have practically vetoed the selection of districts made by Sir Charles Rivaz, and have pre-judged the experiment because they did not feel sanguine as to its success Sir Denzil Ibbetson expects active assistance from his District Officers who, if they know their districts as they should do, will have little difficulty in selecting the most promising starting points They may have their own private opinions about the probability of success, and no one can feel quite sure of the result But the intention of Government is that this experiment shall have a fair trial, with all the advantages which the cooperation of its officers can give it, and the latter must regulate their conduct accordingly "

* Report for 1904-05, p 2

Kaithal together and told them that the Registrar was arriving shortly, and that before his arrival they must apply for registration The forms of application were then distributed "on which he ordered the amount of contribution (apparently by way of gift) of each applicant to be entered" However, in all only 5 applications were received In one case Mr Wilberforce registered a society, as the people, after understanding the scheme, approved of it "In the other three cases the coerced contributors were practically all in debt, and naturally saw no advantage in borrowing Rs 50 or Rs 100 at 27 per cent from a money-lender to finance a society in which they took no interest and of which they had no knowledge'"[*]

The movement promised more success in Hoshiarpur, where 3 societies were founded Mr Wilberforce found the people ready to listen to any scheme for their improvement Unlike the people of Karnal they were full of enterprise Another factor which was favourable to success was the existence of a large amount of capital which could be attracted by well-managed societies This represented the money remitted and brought home from Australia, Africa and various parts of India

The Una *tahsil* of this district furnished a brilliant example of spontaneous co-operative effort which deserves to be remembered in the history of co-operative credit in the Punjab This is the Rajput society of Panjawar, a village of average size, situated on the inner slopes of the Siwaliks.

The society was formed in 1892 It was never fostered by the Government, and its existence was unknown for nearly 10 years The founder of the society was Mian Hira Singh, the lambardar of the village The cause of the formation of the society may be briefly

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**Report*, *1904-05*, p 3

explained The undivided common land belonging to the village consisted of about 1500 acres, of which about 900 acres of sandy, stony soil, which had been recently thrown up on the Panjawar side by the Sohan, was in danger of being washed away, and the rest was exposed to attack by *Chos* (mountain torrents) Under the guidance of Hira Singh it was decided by the landowners, 55 in number, who joined the society, to hand over the whole of the undivided land to an elected Committee, which was to apply the income from the land (1) in managing and improving the common land, (2) in taking over the mortgages held by outsiders on behalf of the mortgagors, (3) in making ordinary advances and generally for the improvement of the village

The Registrar was able to report in 1905 that by taking appropriate measures (planting of grass and trees) the society had saved the land thrown up by the Sohan from danger and arrested the attacks of *Chos* to a great extent In addition, the society had taken over all the land mortgaged to outsiders at a cost of over Rs 10,000, and had lent about Rs 3,000 on short loans at 6 per cent In view of the success attained by the society the Registrar concluded that the Panjawar type of society was the best for villages possessing undivided common land, and he endeavoured to start societies of this type in the Hoshiarpur district

He sought to promote two other types—one which he called the "money-deposit type," and the other the "Mianwali type ' The money-deposit type had no share capital, but operated with fixed deposits (bearing interest), obtained as far as possible entirely from members, and made advances to members at a higher rate of interest than that allowed to depositors. This type of society was meant for the prosperous villages of the central Punjab.

The Mianwali type was recommended for poor communities Reference has been made above to five societies founded in the Mianwali district by Captain Crosthwaite The capital of these societies was raised by voluntary grain subscriptions after the *rabi* harvest The value of these subscriptions was credited to the member's account, and was not returnable for 10 years The grain subscribed was partly kept for seed advances at the next sowing and partly sold in order to provide funds for money advances In the beginning advances were given only for seed and purchases of cattle Interest was charged at rates varying from 5 to 16 per cent and was generally payable in grain The society's profit consisted of interest, and in cases of advances for sowing, of the difference in the price of grain at harvest and at sowing time.

The Registrar, however, did not take long to realise that both the money-deposit and the Mianwali types of society were not suited to the Punjab, and were not likely to become popular The Mianwali type offered no inducement for savings, as it allowed no interest on deposits In the money deposit type the element of true co-operation was lacking—the society financed the poorer members with money borrowed from the wealthier members, or at their risk It was more a philanthropic institution than a co-operative credit society

"The type of society now coming into favour in the Punjab," wrote Mr Wilberforce in his report for 1906-07, "is one adopted from the system popularised in Italy by Signor Luzzati" In this type, adopted with certain modifications in the Punjab, the members became share-holders by payment of 10 compulsory annual instalments No dividends were to be declared for 10 years, when three-quarters of the profits were to be divided among the share-holders, the remaining fourth being transferred to the reserve fund.

This type of society, the Registrar points out, was devised not by any Government official, but by the zamindars of the Gurdaspur District He regarded the share-capital society as possessing special advantages from the point of view of the Punjab agriculturist. The Punjab agriculturist was thrifty enough—encouraging thrift among the Punjabi peasants the Registrar likened to ' bringing coal to Newcastle "—but he had to learn to make a proper use of his thrift * The dividend which a member of this type of society would receive after 10 years is like a pension, for the sake of which he might forego his petty extravagances At the same time an institution is created which finances him on reasonable terms

In 1906-07, 95 societies working in the Punjab were of the share-capital type, 63 were working only with fixed deposits, and 16 on Mianwali lines

The progress of the movement was rapid In the review of the report on co-operation in the Punjab for 1913-14 it was noted with satisfaction by the Government that the Punjab possessed a larger number of societies than any other Province in India, and that the Punjab agricultural societies had collected larger sums as share-capital and deposits than all other societies of the same class in India In 1913-14 the number of agricultural societies in the Punjab was 2,780, the number of members over 1 lakh, and the amount of working capital about 1 crore.

The development of co-operative societies in the Punjab has been on the lines foreseen in 1906-07 Share-capital preponderates, while deposits from members are comparatively small In 1927-28, the paid-up share-capital of agricultural credit societies amounted to about

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* *Report for 1906-07*, p 3

79 lakhs as compared with 30 lakhs of deposits from members. In the same year, the number of agricultural credit societies was 14,438 and the total working capital over 6 crores

The growth of agricultural co-operative societies in the whole of India is shown by the appended statement —

	Credit			Non credit.		
	Number of societies	Number of members (1000)	Working capital Lakhs	Number of societies	Number of members (1000)	Working capital Lakhs
1915-16	16,690	665	4,92	96	4	1
1919 20	32,595	1 046	8 73	616	34	18
1923 24	49,118	1 585	15 15	1,196	77	40
1926 27	65,101	2 115	21 11	2,133	154	58

It will be seen that between 1915-16 and 1926-27 the number of credit societies increased about 4 times, the number of members more than 3 times and the amount of working capital about 5 times

The proportion of members of agricultural societies to families in rural areas has been thus estimated for different parts of the country

[*Table*

*Proportion of members of agricultural societies to families in rural areas.**

	All societies per cent	Credit societies per cent
Ajmer-Merwar	15 4	15 0
Assam	2 9	2 9
Bengal	4 4	3 8
Behar and Orissa	3 2	3 1
Bombay	10 0	8 7
Burma	3 9	3 7
Central Provinces and Berar	2 4	2 3
Coorg	36 2	36 2
Delhi	11 5	11 5
Madras	8 3	7 9
N W F Province	0 2	0 2
Punjab	10 9	10 2
United Provinces	1 8	1 8

Among the major Provinces the largest proportion of the rural population affected by the co-operative movement is in the Punjab, but even in the Punjab 89 per cent of the rural population is not touched by the movement. This proportion for the other Provinces is Bombay 91·3 , Madras 92 1 , Bengal 96 2 , Burma 96·3 Central Provinces and Berar 97 7 and the United Provinces 98 2 Although co-operation has achieved much during the past 25 years, much still remains to be done

The growth of co-operation has undoubtedly encouraged thrift. For India as a whole the members of agricultural societies numbering a little over 2 millions had borrowed from their societies at the end of 1926-27, a sum of Rs. 17 crores, of which over Rs 7 crores was their own money Of this sum Rs. 2½ crores was their share-capital, and the reserve fund was about Rs. 3½ crores. Thus more than one-third of the total sum owing by the members of agricultural societies represented their own savings.

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* *Report Agricultural Commission*, p. 447

While, as a matter of principle, loans should be made by co-operative credit societies only for productive purposes, in actual practice this cannot be done without forcing the co-operator to borrow from the Mahajan. Loans therefore are made for almost all purposes

The following table shows the objects for which loans are made by co-operative credit societies

[Table

Analysis (by the Co-operative Department, Punjab) of loans made by over 2000 societies)

		Loans No	Amount Rs	Proportion per cent of total No of loans.	Proportion per cent of total amount of loans
1	Cattle	11,015	9,14,829	22 1	18 2
2	Fodder	1,224	43,283	2 5	·9
3	Seed	2,870	93,934	5 8	1 8
4.	Implements	378	33,160	8	7
5	Carts	173	24,022	3	·5
6.	Rent	529	51,915	1 1	1 0
7	Revenue	6,643	4,74,897	13 3	9 5
8	Household	1,654	87,011	3 3	1 7
9	Grain	2,454	86,521	4 9	1 7
10.	Debt	11,394	13,56,897	22·8	27 0
11.	Wells	614	72,673	1 2	1 5
12	Land improvement	198	21,062	4	4
13	,, cultivation	426	39,035	8	8
14	,, redemption	649	1,35,560	1 3	2 7
15	,, lease	47	11,713	·1	2
16	,, mortgage	190	29,707	4	6
17	,, purchase	1,211	3,25,588	2 4	6 5
18	Building	1 464	1,93,581	3 0	3 8
19	Education	171	16,141	·3	3
20	Trade	3,205	5,67,481	6 4	11 3
21	Ceremonies	2,834	4,01,011	5 7	8 0
22	Litigation	62	4,320	1	1
23	Miscellaneous	475	41,601	1 0	8
	TOTAL	49,880	50,25,942	100 0	100 0

Note —Figures showing the number of loans and their amount have been taken from the Report on the working of Co-operative Societies in the Punjab for the year ending 31st July 1928 The percentages in the last column had to be re-calculated as those given in col 4 of the Table on p 18 of the Report are in many cases inaccurate !

The most important objects for which loans (amount) are given in the order of their importance are: re-payment of old debt, purchase of cattle, trade, payment of land revenue, ceremonies and purchase of land.

The main source of external capital in the case of primary societies is loans by central banks and banking unions, of which the Punjab has 46 and 72 (1927-28) respectively The apex institution is the Punjab Provincial Bank with a working capital of 70 lakhs

For purposes of supervision, societies in some Provinces are federated into unions. The guaranteeing union, which guarantees loans given on its recommendation, has not been a success, but supervising unions exist in large numbers in Madras and Bombay In Madras all societies within a radius of 7 miles are affiliated to a supervising union, in Bombay the unit is the *taluka* The Agricultural Commission recommended the adoption by other Provinces of the system of supervising unions, with modifications to suit local conditions

Most Provinces have a Provincial Union, which audits co-operative societies or carries on the work of propaganda and training The Punjab Co-operative Union has 119 central institutions affiliated to it, and is described as "the main artery of co-operative activity in the Province."

Land Mortgage Banks The deposits which the ordinary credit society receives are withdrawable at short notice ; the loans made to it are also for short periods It follows that the ordinary credit society cannot engage in business in which its small resources would be tied up for a long time, or lend money on security which is not easily realisable Such is the nature of land mortgage business.

It is also obvious that if credit societies refuse to make advances to their members on the security of their land, they will be driven to the money-lender for long-term loans of large amount. Hence the need for a new type of financing agency—the Land Mortgage Bank

The first Land Mortgage Bank was established in the Jhang District of the Punjab, and was for several years the only institution of its kind in India. In the year 1927-28, 11 mortgage banks were working in the Province, with a working capital of 18½ lakhs and over 4,000 members The only other Province in which such banks exist is Madras

The principal objects of land mortgage banks are as follows

(a) The redemption of the land and houses of agriculturists,
(b) the improvement of land and of methods of cultivation and the building of houses of agriculturists,
(c) the liquidation of old debts,
(d) the purchase of land, permitted in special cases

Loans for the purchase of land have been stopped altogether in the Punjab Of the 362 loans, totalling about 7 lakhs, made by the Land Mortgage Banks in the Punjab in 1927-28, 171 were for the payment of old debts, 152 for the redemption of land and 9 for land improvement The average amount of the loan was Rs 1,976, the average, however, varying from Rs 734 at Gurgaon to over Rs 4,500 at Lyallpur and Samundri Loans are limited to 15 times the net income of the land mortgaged to the bank, and a maximum limit of Rs 10,000 has been fixed for a loan (in Madras the maximum is only Rs 2,000) Loans are usually made for 10 years

To the working capital of the 11 banks, amounting to 18·53 lakhs, the Government has contributed 8 13 lakhs and the Provincial Bank 6 77 lakhs The Government charges 5½ per cent interest and the Provincial Bank 6½ per cent, while most mortgage banks lend money at 9 per cent

Land mortgage banks are a new experiment, and the Agricultural Commission emphasized the need for caution in the development of this form of credit As the figures given above show, the demand for loans for land improvement is small, loans are mostly wanted for redeeming old mortgages as new arrangements can be effected on easier terms. Strictness in the recovery of the loan (by instalments) is therefore essential The question has been considered whether punctuality in the payment of the agreed instalment should be insisted upon even at the risk of forcing the co-operator to borrow from the Mahajan, and irrespective of circumstances This would, perhaps, be unnecessarily harsh, particularly in those parts of the Province where the harvests are precarious: a reasonable view is that held by the present Registrar, Co-operative Societies, who has permitted the postponement of an instalment " when and in so far as land revenue is suspended or remitted, but under no other circumstances." *

The Money-lender As we have seen, among the major Provinces, co-operation has been most successful in the Punjab. It may therefore be interesting to consider how the progress of co-operation has effected the Punjab money-lender

Some time ago, Mr. Darling, the well known author of " *The Punjab Peasant in Prosperity and in Debt*," and the present Registrar, directed an enquiry to be made through Income-tax officers in the Punjab regarding the position of the village money-lender in various parts of the Province He summarised the results of the enquiry in an interesting note which is printed on pp 592-94 of Vol. VIII of Evidence given before the Agricultural Commission The reports from all districts, with the exception of Hissar and Montgomery, stated that the money-lender was reducing his business in the village In spite of the fact that in urban areas the rate of interest is considerably lower than in rural areas, the village money-lender in several districts is beginning to prefer the town to the village as the sphere of his operations

The causes of this tendency, according to Mr. Darling, are (*a*) the rapid growth of co-operation, (*b*) the legal protection given to the peasant borrower, and (c) the rise of the agriculturist money-lender.

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* *Report*, 1927-28, p 31

In 1925-26 co-operative credit societies in the Punjab lent to their members 183 lakhs and, in 1927-28, 245 lakhs. The growth of the movement must naturally restrict the amount of the business done by the money-lender. The effect of competition on the part of the agriculturist money-lender, whose position in consequence of the Punjab Alienation of Land Act of 1901 is a privileged one, must be the same

The legal position of the agriculturist is strong,* and it is now proposed to protect him against fraud by requiring money-lenders to be registered and to keep accounts in a prescribed form

A Money-lender's Registration Bill was introduced by a private member in the Punjab Legislative Council in November 1924. The Bill aroused much communal ill-feeling It was passed in a modified form by the Legislative Council, but was disallowed by the Governor on account of defects in drafting.

The Agricutural Commission commended "the principles underlying the Punjab Bill and the British Act to the consideration of Local Governments." The British Money-lender's Act of 1927 provides that all money-lenders shall take out a license, that compound interest shall be prohibited, and that the money-lender shall, on demand by the borrower, supply information relating to the state of the loan and also copies of documents relating thereto.

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* "As to (b) the agriculturist cannot now be evicted by a civil court without the intervention of the revenue authority, his plough-cattle, implements and seed cannot be attached, if he is sued, interest charges can be examined and if necessary, reduced, and when he dies, his ancestral land is not liable for the payment of his debts unless they are charged upon it. These privileges have almost the effect of a cactus hedge round the small-holder and his holding, and make recovery for the sowkar extremely difficult" *(Evidence, Agl Com. VIII, 592-3).*

The old Bill was condemned in the press and the Council as a Muhammadan measure This is absurd The question should be considered purely from the economic point of view, and it must be recognised that in this matter the interests of the small-holder are of greater importance than those of the money-lender

There is nothing wrong in the demand that the money-lenders of the Province should be compelled to keep accounts in a regular form Any legislative measure whose object is to prevent fraud and trickery and to ensure honest dealing between the borrower and the lender should have the hearty support of every one, provided it is not so framed (as the old Bill was) as to interfere with the legitimate operations of trade or to have the effect of reducing the amount of capital provided by money-lenders annually for Punjab agriculture

In spite of the rapid progress of the co operative movement in the Punjab it cannot be said that co-operation has succeeded in solving the problem of agricultural indebtedness—it has only touched the fringe of the problem, even in the Punjab This is perhaps not realised by official writers For example, Mr Darling in his note referred to above says

> "Last year [1925-26] 183 lakhs were advanced by village banks to their members, and it is a curious coincidence that this too was the amount upon which the rural money-lender was taxed This does not mean, of course, that the total income of the latter was only 183 lakhs, as only those with an income of Rs 2,000 or more are taxed The figures show that the credit society is now seriously encroaching upon the domain of the money-lender "

It is obvious that the growth of the credit society must be at the expense of the village money-lender, but no inference as to the extent to which the credit society has encroached upon the money-lender's domain can be drawn from the comparison of the sum lent by credit societies in a year to their members with the total income of rural money-lenders

The income of a money-lender represents his profits on the capital lent by him. From the total income of money-lenders (including those who do not pay the income-tax) in a given year it is possible to roughly estimate the value of their total outstanding claims, but not of the advances made by them to agriculturists in that year. It is only by comparing the sum lent by credit societies and by the Mahajan within a given period that some idea can be formed of the relative importance of the two in the financing of agriculture.

Unfortunately the amount of the advances made by Mahajans in a year to agriculturists is not known But an estimate may be formed as follows

According to the Census of 1921 the number of those supported by ordinary cultivation [sub-order (*a*) of Pasture and Agriculture] in British Punjab was 11,756,932, of which 9,923,765 were ordinary cultivators* Taking the average size of the family to be 4 5, 9,923,765 ordinary cultivators represent 2,205,281 families

We have seen that the number of members of co-operative credit societies in the Punjab in 1927-28 was 418,423 All of them would not be ordinary cultivators, but let us assume that they are such, and, secondly, that each represents a family Deducting the number of co-operators from the total of families of ordinary cultivators, we get 1,786,858 families of ordinary cultivators who do not borrow from credit societies

Mr. Darling finds that of occupancy tenants in the Punjab 80 per cent and of proprietors over 80 per cent are in debt. Ordinary cultivators include both these classes as well as tenants-at-will It will not be wrong to assume that of 1,786,858 families who are unaffected by the co-operative movement, not more than 20 per cent are free from debt, which gives 1,429,487 as the number of families that are in debt

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* *Punjab Census Report, Part II*, (1921), p 281.

What is the average amount that these families borrow in a year? We do not know, but it is certain that those who deal with the Mahajan borrow more than co-operators do from their society The Mahajan does not discourage borrowing for any purpose, and is also more accommodating. We may, however, assume that the average sum lent by the Mahajan is the same as that lent by credit societies to their members in a year In 1927-28 the loans made by credit societies to 418,423 members amounted to Rs 2,44,93,947, or an average of Rs 58½ per member Assuming, then, that each of the 1,429,487 families of ordinary cultivators, who do not borrow from credit societies, borrowed from the Mahajan not more than Rs 58½ in 1927-28, the total sum advanced by the Mahajan amounts to Rs 8,36,24,989 or 3·4 times the advances made by credit societies to their members

This is probably an under-estimate for the following reasons (1) the number of ordinary cultivators in 1927-28 must have been greater than 9,923,765, which is the figure for 1921 It follows that the families of ordinary cultivators financed by the Mahajan in 1927-28 must have been greater than the figure we have assumed; (2) as has been stated above, the average amount per borrower in the case of the Mahajan is probably much greater than Rs 58½ in a year

We thus reach the conclusion that of the total sum required for agricultural finance in a year, at the present time the Mahajan furnishes at least 77 per cent, very probably credit societies do not provide for Punjab agriculture a sum more than 15 to 20 per cent of the total requirements in a year

It is thus seen that while the credit society has been encroaching upon the Mahajan's domain, the

Mahajan still dominates rural credit. His power is far from being broken, and though he is doomed, his supremacy is not yet gone.

The cultivator can be rescued from the clutches of the Mahajan only by a rapid extension of co-operative credit. But the development of co-operative credit must proceed slowly, there are dangers in a too rapid advance

The co-operative movement in India, as we have seen, is wholly inspired, guided and controlled by the Government—in this sense it lacks the true elements of co-operation, whose essence is self-help. It is therefore all the more necessary that proper attention should be paid to the quality of the societies that are founded

The Agricultural Commission found that increase in numbers was not always "accompanied by improvement in quality." The movement is financially solvent, but the working of the societies is defective "In the Central Provinces, a thoroughly unsound system was allowed to develop into a top-heavy organisation" In the United Provinces a special committee appointed to enquire into the state of co-operation reported that "the village society was mostly a sham."* In Madras there was recently an enquiry into the causes of the steady increase of over-due loans. Most of these defects are due to the lack of knowledge, on the part of members of primary societies, of the true meaning and principles of co-operation. Strenuous efforts must therefore be made to educate them

In the Punjab a policy of stricter classification of societies and of consolidation has been adopted, as it was felt that the rapid advance of the last 3 or 4 years had led to some deterioration in the older societies 21 per cent of our societies (*i e*, those classed A and B) are really co-operative, "while 74 per cent (class C) are still being taught to stand by themselves" *

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* *Report, pp. 448-50.*

Non-credit Societies Attention in India has been chiefly concentrated on the credit society, but non-credit societies have not been neglected As the Agricultural Commission point out "Outside the credit movement, the main functions of the Co-operative Departments is to prepare the ground for the advice of the experts" It is impossible for the expert to get into touch with the individual cultivator in the village But if the cultivators are grouped together in societies, knowledge of improved methods of cultivation can reach them through their society This is the object of better farming societies in the Punjab, of which there were 123 in 1927-28. The members of such societies pledge themselves to follow the advice of the Agricultural Department in cultivating their land "Improved ploughs," says the Registrar in his report for 1926-27, "harrows and chaff-cutters, selected seed of wheat, cotton, and sets of Coimbatore cane are in general use, while new vegetables and fruits are being tried in special areas "†

Other examples of co-operative effort are rural supply unions which deal in grain, cloth, salt and other household requirements, stock-breeding societies, milk-recording societies and commission shops In Bombay there are societies of cotton growers who pool their cotton and sell it jointly, and in Bengal there are co-operative irrigation societies which have for their object the construction of new and improvement of old sources of irrigation

The Punjab Consolidation of Holdings Societies specially deserve to be mentioned. These societies have been doing very useful work for several years. It was mentioned in the Punjab Report on Co-operation for 1919-20 that consolidation in Saila Khurd (Tehsil Garhshankar) reduced the number of fields from 425 to 5, while the average size of a field was increased from 3 to 35 *kanals*. According to the Report for 1927-28 the area re-partitioned in societies registered in that year was over 64,000 acres, in which 55,655 blocks of land were reduced to 8,883 The average size of a block in consequence increased from 1 16 acres to 7 3 acres Improvements can be more easily made in consolidated than scattered holdings *

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* *Report, 1927-28, p 19.*

† *Report*, p 27.

Among non-agricultural societies the most interesting types in the Punjab are thrift societies, better living societies and arbitration societies The object of better living societies is to persuade their members to give up drinking and gambling, and to reduce wasteful expenditure in connection with marriages and other ceremonies The number of thrift societies is increasing Most of their members are school-masters but other classes of the community are also represented The number of arbitration societies is still small, but, as the Registrar says, "The very delicate plant of arbitration shows signs of taking root.'

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* "It is significant that eight out of the nine better farming societies in Jullundur are to be found in consolidated villages Equally significant is the tendency, just perceptible in Jullundur and Gurdaspur, for the cultivator whose fields have been consolidated to leave the village and live on his land This is the real beginning of better farming The other advantages of consolidation are too well-known to need description New wells are sunk, old ones repaired—581 have been brought into use since consolidation began [372 in Jullundur alone] , access is obtained to roadways , derelict land comes under cultivation , rents go up , farming becomes more intensive , fruit trees are planted (959 in Gurdaspur), and litigation diminishes." (Report on Co operation, Punjab, 1927-28, p 25)

CHAPTER XXIII

FOREIGN TRADE

The following table shows India's visible balance of trade in merchandise and treasure from 1926-27 to 1928-29.

In this table (+) indicates net export and (–) net import.

Private	1926-27 Rs Lakhs	1927-28 Rs Lakhs	1928-29 Rs Lakhs
Exports of Indian merchandise	+301,14	+319,15	+330,13
Re exports of foreign ,,	+8,01	+9,54	+7,83
Imports of foreign ,,	-229,98	-246,73	-251,42
Balance of trade in merchandise	+79,47	+81,96	+86,54
Gold	-19,40	-18,10	-21,20
Silver	-19,79	-13,85	-13,04
Currency notes	-14	-24	-12
Balance of transactions in treasure	-39,33	-32,19	-34,36
Total visible balance of trade	+40,14	+49,77	+52,18

The total visible balance of trade in each year was in India's favour. As a rule, the value of exports of merchandise exceeds that of imports of merchandise, and there are net imports of treasure into India. Between 1913-14 and 1928-29 there were only two years in which there were net imports of merchandise, 1920-21 (80 crores) and 1921-22 (34 crores). Including net imports of treasure there was in these two years an excess of imports over exports, 88 crores in 1920-21 and 46 crores in 1921-22, or the blance of trade turned against India.

As compared with the pre-War year 1913-14, the value of both imports and exports of merchandise has considerably increased. In 1927-28, for example, the imports of foreign merchandise were valued at 247 crores as compared with 183 crores in 1913-14; the value of **exports** of Indian merchandise in 1927-28 was 319 crores as compared with 244 crores in 1913-14 If allowance is made for the rise of prices, it is found that the total volume of our foreign trade in 1927-28 was about equal to that in 1913-14, while in each of the other years it was actually less The following table shows the value of imports and exports of merchandise on the basis of the declared values in 1913-14 (thus excluding the increase in value due to the rise of prices since 1913-14)

	Imports Rs crores	Exports Rs crores	Total trade in merchandise excluding re exports Rs crores
1913 14	183	244	427
1920-21	142	172	314
1921-22	124	182	306
1922 23	138	214	352
1923-24	120	240	360
1924-25	137	250	387
1925-26	143	246	389
1926-27	156	228	384
1927 28	181	248	429

(The figures are approximate Source *Review of the Trade of India* 1927 28, p 1)

It is seen that the volume of exports in 1927-28 was slightly greater, and that of imports slightly less than in 1913-14

Both imports and exports are divided into five main groups

Declared value of imports and exports in 1928-29 in crore Rs.

		Imports Rs Crores	Exports Rs. Crores.
I	Food, drink and tobacco	46	67
II	Raw materials and produce and articles mainly unmanufactured	23	170
III	Articles wholly or mainly manufactured	180	90
IV	Living animals		
V	Postal articles not specified	4	3
	Total	253	330

71 per cent of the imports in 1928-29 consisted of articles wholly or mainly manufactured, and about 72 per cent of the exports, of raw materials and foodstuffs

The history of the economic development of some of the leading foreign countries may be read in the figures of our foreign trade Fifty years ago the share of the United Kingdom in our total trade amounted to more than 60 per cent "The flow of trade with other countries," says the Review of the Trade of India for 1884-85, "in comparison with that between England and India, is of little significance"* The United Kingdom, then, was the only country which extensively manufactured goods adapted to our requirements, and she met with little competition in our markets either from home industries or foreign manufacturers. The situation has materially changed during the past 50 years This is shown by the following tables

TABLE I

Percentage share of the United Kingdom, Germany, the United States and Japan in India's Exports and Imports

Year	Imports				Exports			
	U K %	Germany %	U S A %	Japan %	U K %	Germany %	U S A %	Japan %
1875-76	83 0	05	5	01	48 3	2	3 0	·01
1885-86	81 6	2	1 5	03	40 9	5	3 6	3
1895-96	69 6	3 2	1 5	6	31 6	7 0	5 1	2 5
1905-06	68 6	3 9	2 3	1 1	25 1	9 1	8 0	6 1
1913-14	64·2	6 9	2 6	2 6	23 5	10 8	8·9	9 3
Average —								
1909-10 to 1913-14	62 8	6 4	3 1	2 5	25 1	9 8	7 5	7 5
1914-15 to 1918-19	56 5	7	7 0	10 4	31 1	9	11 9	11 2
1919-20 to 1923-24	57 6	2 8	8 5	6 9	24 2	4 9	12 0	13 3
Year —								
1924-25 ..	54 1	6 3	5 7	6 9	25 5	7 1	8 8	14 3
1925-26	51 4	5 9	6 7	8·0	21·0	7 0	10 4	15 0
1926-27	47 8	7 3	7 9	7 1	21 4	6 9	11 1	13 3
1928-28	47 7	6 1	8 2	7 2	25 0	9·9	11 1	8 9
1928-29 *	44 7	6 3	6 9	6 9	21 2	9·5	11 8	10 4

* Figures for exports exclude re exports of foreign merchandise

Source The percentage share has been calculated for pre War years on the basis of figures given in the Stat Abs (1906-07 Part II, Commercial, and that for 1911 12 to 1920-21). For other years, see *Review of the Trade of India* and Monthly Accounts of the Sea-borne Trade of India for March 1929

TABLE II.

Share of the United Kingdom in India's Total Trade.

Year	Per cent of total trade.	Year.	Per cent of total trade
1875-76	62 2	1924-25	36 5
1885 86	57 1	1925 26	32 1
1895 96	46 4	1926 27	32 7
1905 06	42·9	1927-28	34 9
1913-14	40 9	1928-29	31 4
Average 1909 10 to 1913 14	40·0		
,, 1914 15 to 1918 19	41 2		
,, 1919 20 to 1923 24	39 5		

It will be seen that from 62 2 per cent. in 1875-76, the share of the United Kingdom in our total trade fell to 40 9 per cent. in 1913-14, and 31 4 per cent in 1928-29 There was a slight increase in the trade with the United Kingdom in the War period, the reasons for which are well known

Taking imports and exports separately, we find that in 1875-76 no less than 83 per cent of the total imports came from the United Kingdom, the share in the import trade of Germany, Japan or the United States being negligible For 1913-14, the corresponding figure for the United Kingdom is 64 2 per cent and for 1928-29, 44 7 per cent. More than 16/20th of our total imports in 1875-76 came from the United Kingdom, in 1928-29, something less than 9/20th.

The *Review of the Trade of India for 1884-85* notes that about that time our direct trade with France was of greater value than that of any two other European countries combined. At the present time, Germany, the United States of America and Japan have each a larger share in our total trade than France.

From practically nothing in 1875-76 the share of these countries in our imports increased steadily till the outbreak of the War. Germany lost ground in the War and the post-War period, but what Germany lost, the United States, and particularly Japan gained. As will be seen, in 1928-29, the share of the United States and Japan in our imports amounted to about 7 per cent in each case and of Germany 6 3 per cent

The share of the United Kingdom in our exports fell from a little more than 48 per cent. in 1875-76 to 23½ per cent. in 1913-14 There was a considerable increase in the value as well as volume of exports to the United Kingdom during the War, but in 1928-29, of Indian produce, the United Kingdom took only slightly more than 21 per cent of the total In the same year about 12 per cent of our exports went to the United States, about 10½ per cent to Japan and 9½ per cent to Germany

The chief exports to Germany are raw cotton, raw hides and skins, raw jute, rice, lac and groundnuts those to the United States, raw hides and skins, raw jute, lac and castor seed, and those to Japan, raw cotton, rice and iron and steel Of the total exports of raw cotton, valued at about 66 crores in 1928-29, exports to Japan amounted to 29 crores

Though our trade with the United Kingdom is less important at the present time than it was in 1875-76, still in 1928-29 the share of the United Kingdom in the import trade was more than double that of Germany, the United States and Japan combined, and her share in the export trade was about equal to that of Germany and the United States combined.

That the United Kingdom has lost her former monopolistic position in the import market of India, on account of the rapid industrial progress of her rivals, is obvious The following table shows the share of the United Kingdom in the imports of the principal articles in 1880-81 and 1927-28 :—

Share of the United Kingdom in Imports

	1880-81		1927-28		PERCENTAGE SHARE.	
	Imports from U K Rs 1,000	Total imports Rs 1,000	Imports from U K lakhs	Total imports lakhs	1880 81 Per cent	1927 28 Per cent
Cotton goods, including twist and yarn	26,222	26,612	46,96	65,16	98·5	72·1
Apparel, including silk and woollen goods	2,262	3,504	2,86	10,16	64·5	28·1
Liquors	1,199	1,537	2,11	3,66	78·0	57·7
Machinery of all kinds	761	835	12,53	15,93	91·1	78·7
Metals	3,429	3,846	16,85	28,39	89·2	59·4
Hardware and cutlery, including plated ware	534	589	2,15	5,62*	90·7	38·3
Salt	538	665	26	174	95·2	14·9
Books, stationery, including paper	610	844	2,14	4,52†	72·3	47·2
Chemicals	130	139	1,46	2,64	93·5	55·3
Drugs, medicines and narcotics	206	440	84	1,98	46·8	42·4
Dyeing and tanning materials	137	245	15	2,64	55·9	5·7
Coal	1,214	1,320	14	58	91·9	24·1
Earthenware and porcelain	119	135	30	80	88·1	37·5
Glass	212	384	23	2,48	55·2	9·3
Matches, lucifer and others	92	101		39	91·1	.
Paints and colours	151	186	1,12	1,54	81·2	72·7
Umbrellas	229	272	16	62	84·2	25·5

* Does not include electroplated ware

† Includes pasteboard

(Source for 1880-81, see Statistical Tables for British India, 17th Issue)

In all cases without exception there has been a decline in the proportion of British imports; in some cases the decline has been very heavy.

By far the most important of our imports is that of cotton piece-goods. In 1927-28 the *total value* of grey, bleached and coloured piece-goods *imported* into India amounted to 51 crores of rupees (grand total of all imports 250 crores). No less than 15 per cent of the imports of piece-goods came from Japan in that year. Japan is a serious rival of the United Kingdom in the supply of grey (unbleached) and Japan and Italy less serious rivals in the supply of coloured piece-goods

In the supply of apparel the United Kingdom meets competition from Germany and France, and in that of woollen piece-goods from France, Germany and Italy In 1927-28, 18 per cent of the woollen piece-goods imported into India came from France and 11 per cent each from Germany and Italy. The imports of silk piece-goods from China and Japan are of greater value than those from the United Kingdom, and of silk yarn, from Italy, China and Switzerland

In the supply of ale and beer, Germany is a serious rival of the United Kingdom and in that of spirits, France. In machinery and millwork the United Kingdom's chief competitors are the United States and Germany, in stationery, chemicals and drugs and medicines, Germany, and in paper, Germany, Sweden and Norway Of metals Belgium sent us 13 per cent of the total in 1927-28 and Germany 9 per cent, while the United Stated claims a growing share in the imports of iron and steel. 30 per cent of our total imports of hardware, and over 68 per cent of cutlery in 1927-28 came from Germany. The largest imports of salt now are from Aden and Egypt, of coal from South Africa, of earthenware and procelain from Japan, of glass and glassware from Japan, Czechoslovakia and Germany, of dyeing and tanning substances from Germany, of umbrella fitttings from Germany and Japan, and of matches from Sweden

Considering the comparative decline in the demand for British goods with the growth of foreign competition, it is not surprising that British manufacturers should have thought of Imperial Preference as a means of stimulating this demand

The question of Imperial Preference was considered by Lord Curzon's Government in 1903 The position of the British Empire in India's trade since 1903 has not improved, but grown worse The imports from the British Empire in 1903 amounted to 75 per cent of the total, and exports of Indian produce to the British Empire to about 47 per cent The percentage share of the British Empire in India's foreign trade in recent years is shown by the following table

	Imports %	Exports including re exports %	Total trade %
Average 1909 10 to 1913 14	69 7	41 1	52 3
1926-27	54 9	38 1	45 5
1927-28	54 6	40 1	46.3
1928 29	54 1	35 1*	43 4*

Both as compared with 1903 and the pre-War average, the share of the British Empire in India's foreign trade to-day is much smaller

There is no question that the preferential treatment of British imports (British iron and steel is one example) will encourage the demand for them as against imports from Continental Europe, the United States or Japan. But the gain to India under any scheme of preference is doubtful. This is because our exports consist mainly of raw materials and food-stuffs, *i e* they are not of a kind which will benefit appreciably from preference The Indian Fiscal Commission which examined this question in 1921-22 stated that even if the tariff policy of Great Britain were modified as proposed in 1904, they did not think that the gain to India would be large

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* Does not include re-exports

The dangers and disadvantages of a policy of preference are only too obvious (1) changes in our tariff might be determined not with reference to the needs of Indian but British industries. (2) the Indian consumer might be asked to bear heavy burdens for the benefit of British manufacturers—in essence Imperial Preference means the protection of British industries at the expense of the Indian consumer, and (3) retaliation by foreign countries might involve India in tariff wars, which would bring her no economic gain, but cause certain injury

Lord Curzon's Government emphasized the danger of retaliation The greater portion of our exports, they pointed out, " compete successfully in foreign markets by reason of their cheapness rather than of their quality or kind "* The articles of which India enjoys a partial or absolute monopoly are opium, indigo, myrobolans, *mohica*, jute, teak wood, lac and *til* The total value of the exports of these articles in 1928-29 was about 103 crores, or 31 per cent of the total value of exports in that year. Then there are other articles, *viz*, rice, hides and skins, oil seeds (excluding *mohua* and *til*,) drugs and spices, in the case of which India's position as a seller is of considerable strength The value of the exports of these articles in 1928-29 amounted to 66 crores, or 21 7 per cent of the total value of our exports in 1928-29 It will appear that the world demand for about 53 per cent of our exports is strong, but it still remains true that the world buys the greater portion of our exports because they are cheap. India is not the only source of supply for rice, hides and skins, oil seeds, drugs and spices, or other articles of which we have no monopoly of any kind If any country or countries took retaliatory measures in the event of our adopting a policy of preference, we could not escape all injury, though the losses suffered by the foreigner might be greater. It is also evident that a debtor country, having large foreign payments to make annually, as we do, cannot afford to take such risks. The Fiscal Commission came to the conclusion that India could not grant extensive preferences without serious loss to herself The principles laid down by the Commission which should govern the application of a policy of preference were as follows

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* *Letter to the Secretary of State for India, 22nd October 1903.*

> "In the first place, no preference should be granted on any article without the approval of the Indian legislature Secondly, no preference given should in any way diminish the protection required by Indian industries Thirdly, the preference should not involve any appreciable economic loss to India after taking into account the economic gain which India derives from the preferences granted her by the United Kingdom"

* * * *

Attention may be briefly drawn to the effects of the outbreak of the Great War upon our foreign trade In 1913-14, as we have seen, the value of the imports was 183 crores and that of exports 244 crores In 1914-15 imports fell to 138 crores and exports to 177½ crores The fall in exports was more serious In 1913-14, 10 per cent. of our exports went to Germany and 3 5 per cent to Austria-Hungary Taken together, these two countries were important purchasers of our raw produce, particularly food-grains, raw cotton, raw jute, seeds and hides and skins. The closing of their markets to our produce, combined with curtailment of exports to France and Belgium, brought about a fall in the value of cotton, jute, oil-seeds, etc., which inflicted severe losses on our growers of these products.

Soon after the outbreak of War ordinances were issued providing for the temporary impressment of vessels, prohibiting financial and other dealings with enemy States, and making it possible to obtain information as to the stocks of articles of commerce, and for taking over by Government of stocks unnecessarily withheld from the market. The general policy of Government was to (*a*) restrict trade in food-stuffs and articles capable of being turned to warlike uses in the case of countries whence they could pass to the enemy, (*b*) to stimulate the export of a few articles to the United Kingdom and Allied countries, [illegible] which were making munitions for the Allies, and (*c*) to restrict the export of a very few articles owing to their being needed in India

Apart from restrictions imposed upon trade by Government, trade was much hindered throughout the War by the scarcity of tonnage and the consequent abnormal rise in freights About freights in 1916-17 the *Review of the Trade of India* for that year says —

"Two additional factors in the year's trade were the famine in tonnage, and (in the last quarter of the year) difficulties connected with finance on account of the curtailment of Councils With regard to the former, the words 'no ships' are writ large on almost every page of the *Review*. In many respects this may be regarded as the principal event of the year At the close of the year freights, in consequence of the tonnage difficulty, rose to fourteen times their pre-War level"

The rise in freights partly worked in our favour, for while it did not prevent the export of such articles as were needed for War purposes, it diminished imports and thus helped to swell the balance of trade in our favour.

The War created a strong demand for some of our exports. For example, the exports of hides and skins, tanned and dressed, increased from 15,231 tons in 1913-14 to 28,439 tons in 1918-19; of oils (in the same period) from 26 million gallons to about 37 million gallons, of raw rubber from 2·6 million lbs. to about 14 million lbs, of jute bags from 369 millions (number) to 583 millions (805 millions in 1916-17); and of jute cloth from 1,061 million yards to 1,103 million yards (1,231 million yards in 1916-17) The value of imports slowly increased but it was wholly due to the rise of prices; the volume of imports decreased heavily on account of the pre-occupation of Western countries with the War, shortage of shipping and other causes

The principal articles of import and export, arranged in the order of their importance, are as follows

[Table.

Year 1928-29.

Imports	Lakh Rs	*Exports*	Lakh Rs
Cotton yarns and manufactures	6324	Jute raw and manufactures	8924[a]
Metals	2696	Cotton	7448[b]
Machinery and Millwork	1942	Grain, pulse and flour	3369
Sugar	1608	Seeds, essential	2962
Oils, vegetable, mineral, and animal	1153	Tea	2660
Vehicles	1100	Hides and skins, raw	955
Provisions and oilman's stores	621	Leather and manufactures thereof	944[c]
Hardware	523	Metals and ores	891
Instruments, implements and apparatus	491	Lac	864
Railway plant and rolling stock	476*	Wool, raw and manufactures	590[d]
Woollen yarns and manufactures	452	Oil cakes	384
Dyes and colours	436	Paraffin wax	245
Paper, pasteboard and stationery	431	Rubber, raw	199
Silk yarns and manufactures	377	Coffee	169
Glass and glassware	311	Spices	158
Liquors	294	Opium	157
Spices	294		
Rubber manufactures	285		
Tobacco (cigarettes, etc)	274		

Attention may finally be drawn to the growth of the export trade in wheat before the War, and the changes in the trade since the War.

The effect of the export of wheat on its price has been discussed before. The following table shows the quantity of wheat exported from 1869-70 to 1928-29 —

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* Value of imports of railway plant and rolling stock in 1927 28 (Source Monthly Accounts of the Sea borne Trade of India, for March 1929)

(a) Jute raw 3234 lakhs , manufactures, 5690 lakhs

(b) Cotton raw, 6669 lakhs , manufactures, 779 lakhs

(c) Hides and skins, tanned or dressed, 931 lakhs , unwrought leather, 11 lakhs , leather manufactures, including boots and shoes, 2 lakhs

(d) Wool, raw, 488 lakhs ; manufactures 102 lakhs

Quantity of Wheat Exported from British India, 1869-70 to 1928-29

Year	1000 cwts	Year	1000 cwts	Year	1000 cwts
1869-70	78	1889 90	13,802	1909 10	21,011
1870-71	218	1890 91	14,320	1910-11	25,323
1871 72	637	1891-92	30,306	1911 12	27,223
1872 73	394	1892 93	14,973	1912 13	33,203
1873 74	1,755	1893 94	12,156	1913 14	24,044
1874 75	1,073	1894 95	6 890	1914 15	14,127
1875 76	2,510	1895 96	10,004	1915 16	13,057
1876-77	5,586	1896-97	1,910	1916 17	14,978
1877 78	6,373	1897-98	2,392	1917-18	29,087
1878 79	1,056	1898 99	19,520	1918-19	9,522
1879 80	2,201	1899 00	9,704	1919-20	172
1880 81	7,444	1900 01	50	1920-21	4,753
1881 82	19,901	1901 02	7,321	1921 22	1,616
1882 83	14,193	1902 03	10,292	1922 23	4,403
1883-84	21,001	1903 04	25,911	1923-24	12,765
1884 85	15,849	1904 05	43,000	1924 25	22,233
1885 86	21,068	1905 06	18,750	1925 26	1,232
1886 87	22,263	1906 07	16,028	1926 27	3,518
1887-88	13,538	1907 08	17,610	1927-28	5,994
1888 89	17,611	1908 09	2,195	1928 29	2,294

(Source *Statistical Tables for British India*, 7th Issue and Stat Abs)

Export on a considerable scale began after 1881. Between 1881-82 and 1893-94 the quantity exported annually on an average amounted to over 17 million cwts.

Exports fell off in years of famine or scarcity, for example, in 1896-97, 1897-98 and 1900-01 the exports were negligible, but in 1904-05 they reached the record figure of 43 million cwts In the quinquennium immediately preceding the War the exports averaged 26 million cwts., or a little over 1½ million tons annually.

Since the War there has been a decline in exports. The production and export of wheat in quinquennial periods from 1895-96 to 1924-25, and in the triennium 1925-26 to 1927-28 are shown by the following table —

Production and Export of Wheat

Average	Area in million acres	Yield in 1000 tons	Export 1000 tons	Internal consumption 1000 tons	Percentage of exports to production
Average—					
1895 96 to 1899 00	22 6	6,029	435	5,594	7 2
1900 01 to 1904 05	25 5	7,676	866	6,810	11 3
1905 06 to 1909 10	26 6	8,092	756	7,336	9 3
1910-11 to 1914 15	30 6	9,663	1,239	8,424	12 8
1915 16 to 1919 20	30 5	9,288	668	8,620	7 2
1920 21 to 1924 25	29 6	9,007	458	8,549	5 1
1925-26 to 1927-28	31 3	8,466	229	8,237	2 7

(Source *Area and yield of principal crops in India*)

It is seen that the largest (average) quantity exported, representing the highest proportion of the crop, was in the period 1910-11 to 1914-15 Successively smaller quantities, representing successively smaller proportions of the crop were exported in 1915-16 to 1919-20 and 1920-21 to 1924-25, while in the triennium 1925-26 to 1927-28 there was a further fall.

The falling off in exports, particularly in recent years, has given rise to much speculation Its chief cause is said to be the growth of internal demand owing to a rise in the standard of living ; a contributory cause was the prohibition and regulation of export during the War.

Exporters seem to take a gloomy view of the situation. It is thought that in the coming years, India, so far from exporting wheat, may become a wheat importing country

The total consumption of wheat in India at the present time is undoubtedly greater than it was at the beginning of the present century the natural growth of the wheat-eating population would, perhaps, largely account for it. But there has been no large change during the past 16 or 17 years either in production or internal consumption, as will appear from the table given below —

Production and Export of Wheat

Year	Area in million acres	Yield 1000 tons.	Export 1000 tons*	Internal consumption of crop 1000 tons	Percentage of exports to production
1909-10	28 1	9,633	1 319	8 314	13 7
1910-11	30 6	10 062	1 360	8,702	13 5
1911-12	31 1	9 924	1,751	8,173	17 6
1912 13	30 1	9 863	1,308	8,555	13 3
1913-14	28 5	8,367	777	7,590	9 3
1914-15	32'5	10,098	731	9,367	7 2
1915-16	30 3	8 653	843	7,810	9 5
1916-17	32 9	10,236	1,549	8,687	15 1
1917 18	35 5	9 922	517	9,405	5 2
1918-19	23 8	7,507	73	7,434	1 0
1919-20	29 9	10,122	319	9,803	3 2
1920-21	25 8	6 706	167	6,539	2 5
1921-22	28 2	9,830	287	9 543	2 9
1922-23	30 9	9,974	714	9,260	7 2
1923-24	31 2	9 660	1,216	8,444	12 6
1924-25	31 8	8,866	302	8,564	3 4
1925-26	30 5	8,696	254	8,442	2 9
1926-27	31 3	8,941	381	8,560	4 3
1927-28	32 2	7,736	187	7,549	2 4

* Includes wheat flour (100 wheat flour = 133 1/3 wheat) Exports shown against each year are those which took place in the following year Thus 1,751,000 tons of wheat (including flour) were exported not in 1911-12 but in 1912-13 Wheat exported in 1911-12 would be out of the 1910 11 crop

Taking the average of the five pre-War years 1909-10 to 1913-14, we find that the area under wheat was 29·7 million acres, yield 9,570,000 tons, export 1,303,300 tons, and proportion of exports to production 13 7 per cent. Deducting exports from average production, the average quantity of wheat left for internal consumption was 8,267,000 tons annually , in three of the five years internal consumption exceeded this amount At the present time, internal consumption amounts to about 8½ million tons annually, or it is only slightly in excess of the pre-War figure Such slight increase as has taken place in the internal demand during the past 16 or 17 years would be wholly accounted for by the natural growth of numbers.

The decline of exports during the War was due to abnormal conditions In more recent years exports have been restricted owing to shortage in production In each year, from 1924-25 to 1927-28 the yield was less than 9 million tons, while in a good year production amounts to about 10 million tons In 1923-24 production exceeded 9 6 million tons and 12 6 per cent of the crop was exported. Apart from conditions of demand and price in the world's wheat markets, our ability to export wheat depends on producing a "surplus" over and above the requirements of the population, which may be estimated at 8½ million tons. We exported very little wheat during the past four years as we produced very little more than the amount required for our own consumption.

Of the 8½ million tons of wheat which are consumed in the country annually, 750,000 to 1,000,000 tons are used as seed, leaving, say, 7,500,000 tons for actual consumption. Assuming that 1¼ lbs is the quantity consumed daily by a wheat-eater, 7½ million tons would feed a population of about 40 millions for a year The wheat eating population of India, however, is estimated to be more than double this number (about 100 millions) Any wheat that is exported from India is therefore a "surplus" only in the sense that high price limits the demand of potential buyers, who substitute other grains for wheat in their consumption.

The future of the wheat trade is uncertain It is however, probable that with the growth of numbers the exportable "surplus" will decrease, unless production expands.

Between 1895-96 and 1913-14 there was a rapid increase in both the area and the yield of wheat Since 1913-14 conditions have been practically stationary The amount produced in a good year now is neither more nor less than what was produced in a good year immediately before the War If the next ten or fifteen years show no substantial increase in the outturn, wheat exports will continue to decline and they may cease altogether

A considerable increase in the area under wheat in India as a whole, in the coming years, is not expected, and the only hope of increasing production lies in increasing the average yield per acre which at present is very low —

Wheat Yield per acre *

	1921-22, lbs.	1926-27, lbs	1927 28, lbs
United Provinces	875	824	707
Punjab	939	723	607
Bihar and Orissa	1,079	944	781
India	781	642	540

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* *Area and Yield of Principal Crops, 1926 27*, and *Indian Trade Journal*, 16th August 1928

The yield per acre can be largely increased by intensive cultivation. Mr Albert Howard * is of opinion that on good land yields as high as 30 maunds per acre can be obtained, and even more The conditions of success mentioned by him are (1) the use of improved varieties of seed, (2) an adequate supply of fermented organic matter applied either to the crop which immediately precedes wheat in the rotation or to the wheat crop itself, (3) improvement of the surface drainage of the land on which wheat is grown so as to allow the surplus rainfall to drain off easily, and (4) an adequate supply of water

Unless their farming becomes progressive, Indian farmers will find it increasingly difficult to compete in the world's wheat markets The four largest exporters of wheat are the United States of America, Canada, Argentine and Australia Of these Canada shows the greatest progress, the area under wheat having more than doubled in Canada in 1927 as compared with the average for 1909—13 Further, all exporting countries have considerably improved not only their methods of production, but transport and sale organisations

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*" *Capital*, ' *Indian Industries and Trade Supplement*, 13th December 1928

CHAPTER XXIV

INDUSTRIES

The industrial backwardness of India* has been due to several causes, among which the neglect of applied

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* The Indian Industrial Commission (1916 18), thus described the deficiencies in the production of articles —

" The blanks in our industrial catalogue are of a kind most surprising to one familiar only with European conditions We have already alluded generally to the basic deficiencies in our iron and steel industries, and have explained how, as a result of these, the many excellent engineering shops in India are mainly devoted to repair work, or to the manufacture hitherto mainly from imported materials, of comparatively simple structures, such as roofs and bridges, wagons and tanks India can build a small marine engine and turn out a locomotive, provided certain essential parts are obtained from abroad, but she has not a machine to make nails or screws, nor can she manufacture some of the essential parts of electrical machinery Electrical plant and equipment are still, therefore, all imported, in spite of the fact that incandescent lamps are used by the million and electric fans by tens of thousands India relies on foreign supplies for steel springs and iron chains, and for wire ropes, a vital necessity of her mining industry We have already pointed out the absence of any manufacture of textile machinery, and with a few exceptions, even of textile mill accessories The same may be said of the equipment of nearly all industrial concerns The list of deficiencies includes all kinds of machine tools, steam engines boilers, oil and gas engines, hydraulic presses and heavy cranes Simple lathes, small sugar mills, small pumps and a variety of odds and ends are made in some shops, but the basis of their manufacture and the limited scale of production do not enable them to compete with imported goods of similar character to the extent of excluding the latter Agriculturists' and planters' tools such as ploughs, *mamooties*, spades, shovels and pickaxes are mainly imported, as well as the hand tools of improved character used in most cottage industries, including wood working tools, healds and reeds, shuttles and pickers Bicycles, motor cycles and motor cars cannot at present be made in India, though the imports under these heads were valued at Rs 187 lakhs in 1913-14 [561 lakhs in 1928 29] The manufacture of common glass is carried on in various localities, and some works have turned out ordinary science, the *laissez faire* policy of the Government in regard to industries, and the shyness of Indian capital for modern enterprises may be mentioned As is well known, one of the most important causes of Germany's industrial leadership is her zeal for scientific studies and the application of science to practical problems In India, till recently, the study of science occupied a very minor place in the educational system The education imparted in our schools and universities is still mainly of a literary type, which accounts for the utter lack in India of scientific and business experts who could help in the organisation of industries and who have, therefore, to be imported Again, as we have seen, in industrial matters, the Government in the past, with few exceptions, followed a 'let alone' policy "The political and economic conditions of India," wrote the Industrial Commission, "have created a large export and import trade, and this trade has brought about the present industrial position "† Unrestricted freedom of importation is responsible in no small measure for the industrial backwardness of India. It largely explains the shyness of Indian capital for modern enterprises There was never any serious lack of capital in India, but Indian capital was chiefly invested in agriculture and a few manufacturing industries, as jute and cotton Profits in most of the industries affected

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domestic utensils and bottles of fair quality, but no attempts have been made to produce plate or sheet glass, while optical glass manufacture has never even been mooted The extent of our dependence on imported glass is evidenced by the fact that in 1913-14 this was valued at Rs 164 lakhs [237 lakhs in 1928 29] Porcelain insulators, good enough for low tension currents, are manufactured, but India does not produce the higher qualities of either porcelain or china Attention has been directed to the building of steel ships, but until the local supply of steel has been greatly increased, it is more than doubtful if expectations in this direction can be realised, and it is probable that there are other ways in which our present relatively small supplies of Indian steel can be quickly and more profitably utilised " (*Report*, 55).

† *Report*, 49.

by foreign competition were very uncertain, and Indian capital avoided these industries. Lastly, in the purchase of Government stores very little advantage was taken of the rules intended to encouarge the purchase of locally manufactured articles, and Government Departments generally indented on the India Office for their requirements

The War forced the Government of India to direct their attention to the question of developing Indian industries The unprecedented shrinkage of imports made the country realise, as it had never realised before, the terrible consequences of too great dependence upon other countries for the supply of things essential in peace and war. The Industrial Commission emphasized the danger of industrial deficiencies in the following words —

> "The list of industries which, though their products are essential alike in peace and war, are lacking in this country is lengthy and almost ominous Until they are brought into existence on an adequate scale, Indian capitalists will, in times of peace, be deprived of a number of profitable enterprises, whilst in the event of a war which renders sea transport impossible, India's all important existing industries will be exposed to the risk of stoppage, her consumers to great hardship, and her armed forces to the gravest possible danger "*

Every effort was made by the Government during the War to develop industries whose products were required, directly or indirectly, for war purposes The Indian Munitions Board was established in February 1917 The functions of the Board were "to control and develop Indian resources with special reference to the needs created by the War,—to limit and co-ordinate demands for articles not manufactured or produced in India, and to apply the manufacturing resources of India to War purposes with the special object of reducing demands on shipping" The primary object of the Munitions Board was to meet the demands of the armies operating in Mesopotamia, but it helped very materially in the development of Indian industries by purchasing in India articles and materials needed for the civil and military departments and for the railways by diverting, so far as it was practicable, orders for articles and materials from the United Kingdom to manufacturers in India; by giving assistance to individuals and firms who desired to import plant or to engage technical and chemical experts and skilled labour from England or elsewhere in order to establish new industries or develop old ones, and by the dissemination of information and expert advice and the giving of other direct or indirect encouragement to persons prepared to establish new industries in India During the 18 months, from 1st April 1917 to the end of September 1918, the Board spent 34 crores of rupees. The stores were purchased by the Board mainly from Indian firms.

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* *Report*, *pp*. 55 56

The Munitions Board paid special attention to the encouragement of 'key' industries For example, some of the accessories used by the milling industries in India, such as roller skins, pickers, sheep skins for rice-polishing, belting, etc, are now made in India Other industries to which considerable attention was paid were the manufacture of anti-friction metal, ferro-manganese, glass, pottery, refractory bricks, disinfecting fluids, tea-pruning knives, tea chests, asbestos, boiler composition, glucose, coir articles and graphite crucibles

Apart from action taken by the Government to encourage Indian industries, the rise of prices caused by the heavy decrease in all kinds of imports gave a great stimulus to Indian manufacturing enterprise. Attempt was made by manufacturers to fill the gap caused by the shrinkage of imports. Old industries were strengthened and enlarged and new industries were established But for certain causes, arising out of our pre-War industrial weakness, the growth of industries during the War would have been even more rapid than it was These causes were (1) the difficulty of importing machinery and materials such as are not made in India, (2) the shortage of coal and coking plant and the shortage of railway wagons and coasting vessels, (3) the difficulty of procuring from abroad chemical and technical experts and (4) the shortage of skilled labour

Metallurgical Industries

There is no lack in India of raw materials required for the development of metallurgical industries This fact was well known to the ancients Nearly 300 B C, Megasthenes wrote that India "has under-ground numerous veins of all sorts of metals, for it contains much gold and silver and copper and iron in no small quantity, and even tin and other metals which are employed in making articles of use and ornament as well as the implements and accoutrements of War'*

Writing in 1881 in the introduction to his "*Economic Geology of India,*" V Ball thus commented on the passage quoted above —

> "To many it may appear that it was a fanciful and fabulous India, very different from the country as it is now known to us To such the facts set forth in this work not only as to the extent of the mineral resources, but also as to the extent of the ancient mining operations, will come almost as a revelation
>
> "Speaking generally, the value of the majority of the deposits is relative to external circumstances Were India wholly isolated from the rest of the world, or were her mineral productions protected from competition, there cannot be the least doubt that she would be able, from within her own boundaries, to supply very nearly all the requirements, in so far as the mineral world is concerned, of a highly civilised community But the consumer would probably have to pay more than he does at the present day"

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* "Industrial Handbook," published by the Indian Munitions Board, p, 123

About 1881, however, no important metallurgical industries, working on modern lines, existed in India. It was in 1885 that the Mysore Gold Company was founded. The Barker Iron Works were, indeed, established in 1875, but it was not until 1899 that the Company succeeded in producing pig iron at a profit. Thus, at the beginning of the present century, the only successful metallurgical works were the gold mining and reduction plants of Kolar and the Barker Iron Works. Great progress has, however, been made during the last 25 years. In 1903 the Hutti Gold Mines (Hyderabad State) commenced operation. In 1907 the Tata Iron and Steel Company was established. In 1909 the Burma Mines, Limited, was started. The Indian Iron and Steel Company was floated in 1918 with the object of producing pig iron. In the same year the regular production of blister copper began in India.

The following table shows the value of certain minerals produced in India —

	1914 £1000	1927 £1000
Manganese ore	877	2,844
Lead and lead ore	202	1,641
Gold	2 338	1 627
Silver	27	709
Tin and tin ore	38	194
Iron ore	11	381
Copper ore and matte	7	314
Tungsten ore	179	43

(*Records of the Geological Survey of India, Vols. xli and lxi Part 3*)

Iron and Steel.

The first fruit of the labours of the Tariff Board was Act No XIV of 1924 to provide for the fostering and development of the steel industry in British India. The Act authorised the Governor-General in Council to give bounties on steel rails and fish plates and on railway wagons to companies producing these articles, registered under the Indian Companies Act of 1913, with a rupee capital, and having a certain proportion of Indian Directors, and imposed duties of 30 to 40 per cent on imported iron and steel according to the stage of manufacture of the imported article, and the requirements of the Indian industry. Protection in the first instance was granted for a period of three years, until the end of March 1927. The rise in the rupee exchange after the passing of the Act and the continued depression in the the steel industry in European countries led to two further enquiries by the Tariff Board in 1924 and 1925 The Tariff Board recommended the grant of bounties on the production of steel ingots subject to a maximum of 50 lakhs for the year ending 30th September 1925, and 60 lakhs for the eighteen months ending 31st March 1927

The situation was re-examined by the Tariff Board in 1926 It recommended the continuance of protection for a period of 7 years, that is until 1933-34 The system of bounties was discontinued on the ground that it was likely to prove very costly. The production of the Indian steel industry was increasing, and it was doubtful whether the revenue from the protective duties would be sufficient to cover the cost of the bounties Further, an element of preference was introduced in the duties levied on imported iron and steel. Two scales of duty have been adopted—"basic duty" and additional duty" The "basic duty" has been fixed with reference to the price of steel imported from the United Kingdom All steel imported into India, whether from the United Kingdom or the Continent of Europe pays the "basic duty" Continental steel also pays the "additional duty," which is based on the difference between the prices of British and Continental steel, making allowance for the difference of quality between the two.

It is expected that by 1933-34 the Indian industry would be able to meet British competition, but it may still require protection against Continental steel

India possesses great natural advantages for the production of steel Most of the raw materials required by the industry exist in India. There are large deposits of iron-ore in many parts of India, the most important of these deposits lie in the "iron belt" which extends over the districts of Singhbhum and the adjoining feudatory States of Orissa. The belt contains enormous quantities of extremely rich iron-ore in which the proportion of metallic iron frequently exceeds 60 per cent As regards coking coal, according to expert opinion, " there is enough coking coal in India to supply the iron and steel industry with 4 million tons of metallurgical coke per annum for the next 150 years at least " The ore deposits of Singhbhum and Orissa are situated at a distance of about 200 miles from the coal fields. The Tata Iron and Steel Company at Jamshedpur at present brings its iron-ore from a distance of about 50 miles and its coal from an average distance of a little over 100 miles Instances could be given of iron and steel companies in Europe as well as America which bring their ore or coal from longer distances The Indian supplies of limestone and dolmite for fluxing, though not very superior in quality, are sufficient for the pupose. Manganese and refractory materials are also obtainable in India

India produces pig iron more cheaply than any country in the world. This is of some advantage in the manufacture of steel, but the cost of subsequent processes is high. Again, there is scarcity here of skilled labour, and we have to import skilled supervision from Europe or America The Indian manufacturer must also import practically the whole of his plant and machinery and also a large proportion of his consumable stores and spare parts.

Pig iron is made in India by the Bengal Iron Company, the Tata Iron and Steel Company, the Indian Iron and Steel Company and the Mysore Government. The Tata Company produces about two-thirds of the whole output

The Tata Company is practically the only Company which makes steel on a large scale in India There are other steel works (*e g*, Government Metal and Steel Factory at Ishapur, E. I Railway Works, Jamalpur, and B B. & C I Railway Works, Ajmer, and two others) but they were established to meet special requirements, and their output is not more than 5 per cent of the Tata's

The production of both pig iron and steel has rapidly increased and it is interesting to study the growth of internal production in relation to imports

The following statement shows the production of pig iron from 1923 to 1927 —

Year	Tons
1923	599,516
1924	872,547
1925	880,075
1926	902,433
1927	1,140,051

Between 1923 and 1927 production thus increased 90 per cent The imports and exports of pig iron from 1921-22 to 1928-29 are as follows —

Imports.

	Quantity Tons	Value Lakhs
1921-22	23,093	27·0
1922-23	12,779	12 9
1923-24	3,786	4 2
1924 25	3,425	4 6
1925-26	2,895	3 2
1926-27	1,627	2 6
1927-28	5,104	6 0
1928 29	3,160	4 1

Exports.

	Quantity Tons	Value Lakhs
1921-22	59,517	53·6
1922-23	118,545	91·5
1923-24	183,195	127·8
1624-25	341,326	216·8
1925-26	381,989	175·5
1926-27	309,505	139·6
1927-28	393,249	178·8
1928-29	448,916	211·5

The quantity of pig iron imported in 1928-29 was less than one-seventh of that imported in 1921-22, while the quantity exported in 1928-29 was more than seven times greater than that exported in 1921-22. The principal exports are to Japan, 353,581 tons in 1928-29 out of a total export of 448, 946 tons of pig iron* In the same year the United States purchased from us about 53,000 tons of pig iron

The production of steel is shown by the following table

	Steel ingots Tons	Finished steel Tons
1916-17	139,433	98,726
1921-22	182,107	125,871
1926-27	530,473	374,221
1927-28	599 565	428,654†

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* "Our pig iron trade with Japan has continued to be satisfactory, and we have not in fact been able to meet the entire demands of our customers" (Speech delivered by the Chairman of the annual meeting of shareholders of the Tata Co. on 27th September, 1928)) The exports to Japan in 1927-28 amounted to 271,000 tons, valued at about 124 lakhs

† Includes 20,311 tons rolled from imported billets

In spite of the considerable increase in production, imports of steel are increasing, as is shown by the figures given below —

Imports of Steel.

	Tons	Lakh Rs
1921 22	613,000	21,13
1926-27	846,000	16,76
1927-28	1,197,000	21,43

The increase of imports is due to the increased consumption of steel in building and public works, and by the railways*

The Tata Iron and Steel Company has a capital of about $10^1/_3$ crores and gives employment to 30,000 workers A scheme for extensions is under consideration, and when it is carried through, the production of pig iron by the Company will be over 800,000 tons (644,000 tons in 1927-28) and of finished steel about 600,000 tons Attempt is being made by the Company to improve the efficiency of labour It is estimated that the cost of producing steel on the Continent of Europe is about Rs. 15 per ton, while it was over Rs 30 at Jamshedpur in 1927-28 It is necessary to improve the training and organisation of Indian labour in order to increase efficiency and reduce costs

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* "In India the year has been marked by a great increase in the consumption of steel In spite of our increased production, imports have increased even more rapidly, and more and more steel is being used in building and public works If the use of steel increases even at a slower rate in future, we need have no anxiety about the market for our increasing production. The new Railway programme has also increased consumption and there have been very large imports of rails We should have liked to make those rails ourselves, but we have not been able to make sufficient steel during the year The construction of new lines of railway is an advantage, as they inevitably mean an increasing consumption of steel of all kinds" (Chairman's speech.)

In view of the charge brought by a member of the Simon Commission against the Tatas that they were the worst employers of labour in the world (subsequently withdrawn) it is interesting to read the following statement made by the Chairman of the annual general meeting of the Tata Iron and Steel Company on the 27th September 1928 :—

"Last year, the average wages of the whole of the staff at Jamshedpur from top to bottom, but excluding all payments to covenanted hands, was about Rs 33 per month, which we claim is higher than that paid in any large industry in India Under the new conditions, the corresponding average will be about Rs 40"

The establishment of the iron and steel industry has led to the inception of two other industries, the (railway) wagon industry and the tin-plate industry.

The Government of India announced in March 1918 that they would purchase annually 3,000 wagons in India for ten years This announcement (cancelled in 1924) undoubtedly acted as an incentive to wagon making in India. If the policy announced in 1918 had been adhered to, India, probably, would have been rendered entirely independent of imported wagons.

Between 1919 and 1924 wagons ordered in India totalled 6,623 against 32,669 contracted for abroad, in 1924-27, 7,023 wagons were purchased in India against 15,370 secured overseas The position of the wagon industry, assisted by these orders, was improving rapidly when suddenly came the discovery by the Railway Board that it possessed 30,000 wagons in excess of requirements! The present position is that the orders placed with the industry do not much exceed one-third of the capacity of all the wagon firms.

The total annual consumption of tin-plate in India is estimated at about 70,000 tons, chiefly in the form of kerosine and petroleum tins. The chief raw material, steel, is supplied by the Tata Iron and Steel Company and tin is imported from the Straits Settlements. The Burma Oil Company purchases the greater part of the output The Indian Tin-plate Company started operations in 1922-23 with workers imported from Wales. But now Indians have been trained to the work, and it is claimed by the manufacturers that the tin plate at Golmuri, near the steel plant at Jamshedpur, "can challenge comparison with any other plant of similar capacity," both as regards quantity and quality of output

Jute.

The inception and development of the jute industry is wholly due to foreign enterprise *, the industry is also largely financed with foreign capital. The following table shows the growth of jute production —

Area and Yield of Jute

Years	Area Million acres	Yield. Million bales (400 lbs each)
Average—		
1895-96 to 1899-1900	2 0	5 8
1915-16 to 1919 20	2 6	8 0
Year—		
1926-27	3 8	12 1
1927-28	3 1	10 2
1928-29	3 1	9 9

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* The following passage taken from the Imperial Gazetteer of India, Vol III, relates the early history of jute —

" Jute fibre was first experimented with by Europeans in 1820, the result being so unfavourable that brokers were for some years subsequently required to give a guarantee that sales of fibre effected by them were free from

Among our exports, jute is of the first importance The growth of exports in recent years is shown by the following figures —

Jute Exports Quantity

	Pre war average	War average	Post war average	1926 27	1927 28	1928-29
Jute, raw, 1000 tons	764	464	554	708	892	898
Jute manufactures						
Bags No, millions	339	715	404	449	463	498
Cloth, million yards	969	1177	1270	1503	1553	1568

Value in crore rupees.

Jute, raw	22.2	12.8	19.5	26.8	30.7	32.3
Bags	9.4	21.0	18.1	24.4	23.3	24.9
Cloth	10.8	24.3	24.7	28.4	29.9	21.6

It will be noticed that while the exports of raw jute declined during the War, those of jute manufactures increased. As compared with the pre-War average, there was a substantial increase in 1928-29 in the quantity of exports, while their value increased more than 100 per cent.

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adulteration with jute One of the earliest commercial references to the fibre occurs in the Customs returns of 1828 In that year 364 cwt of raw fibre, valued at Rs 620, were exported to Europe The manufacture of gunny bags and cloth was at that time entirely in the hands of the Bengal peasant weavers, but the traffic could not have been very extensive In 1832 an enterprising Dundee manufacturer experimented once more with the fibre, and was able to show that it might be used as a substitute for hemp From that date jute gained rapidly in popular favour It was recognised that it was capable of the most minute separation, but it is only within the past few years that this advantage has been utilized for the finer textile purposes In time the difficulty of bleaching and dyeing the fibre disappeared, and the success of jute being thus assured, the foundation of the manufacturing enterprise of Dundee and Calcutta was laid "

In 1913-14 there were 64 jute mills working in India with 36,050 looms, giving employment to 216,288 persons The paid-up capital of the industry amounted to £3 millions and Rs 7 7 crores In 1926-27 the total number of mills was 93, of looms 51,061 and of persons employed 333,659 The paid-up capital had increased to Rs. 17 2 crores, £2 millions and Dollars 12 millions *

The Cotton Mill Industry

In the pre-War year 1913-14, the imports of foreign piece-goods into India amounted to 3,197 million yards, of which 3,104 million yards, or 97 per cent. represented British imports The heavy decline in imports during the War and in the years immediately following the War. and the revival of trade in recent years. are shown by the follwing statement --

Imports of Cotton Piece-Goods into India in Million Yards.

	From United Kingdom	From Japan	Total (including other countries)
1913-14	3101	9	3197
Average 1909 10 to 1913-14	2563	3	2631
Average 1914 15 to 1918 19	1702	97	1840
Average 1919-20 to 1923 24	1199	113	1351
1924-25	1613	155	1823
1925-26	1286	216	1563
1926-27	1466	243	1787
1927-28	1541	321	1973

It will be seen that the imports from the United Kingdom in 1927-28 were a little less than half the imports in 1913-14 The steady increase in the imports from Japan will also be noted.

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* The total capital invested in the industry thus increased from 11 7 crores to 23 2 crores

Japanese imports, however, are still small in amount. A far more formidable rival of Lancashire is the Indian cotton mill industry.

The progress of the Indian cotton mill industry since 1898-99 is shown by the following statement —

Progress of the Cotton Mill Industry

Year ending June 30	Number of mills working	Number of spindles	Number of looms	Number of spindles to looms
1898-99	167	4,549,791	38,155	119
1912-13	236	6,320,028	92,487	68
Year ending August 31				
1917-18	249	6,562,637	115,818	56
1920-21	245	6,845,824	123,544	55
1924-25	275	8,093,801	148,612	55

Production.

Year ending 31st March	Mill production of yarn in million lbs	Mill production of cloth in million lbs	Exports of yarn in million lbs	Percentage of exports of yarn to total production	Exports of cloth in million yards.
1899-1900	514	102	244	47·4	112
1913-14	683	274	207	30·3	130
Year ending 31st August					
1918-19	615	349	73	11·7	187
1921-22	693	403	88	12·6	187
1925-26	686	465	32	4·7	165
1926-27	807	538	42	5·2	197
1927-28	808	567	25	3·1	168

It will be seen that the industry had made considerable progress before the War This is shown particularly by the increase in the number of looms in 1912-13 as compared with 1898-99 At the beginning of the pre-War period (1898-99 to 1912-13), the industry was essentially a spinning industry (a little less than half the total yarn produced was exported) In 1912-13 the number of spindles to looms had fallen from 119 to 68, while the production of cloth increased from 102 million lbs in 1899-1900 to 274 million lbs in 1913-14

The imports of yarn from 1899-1900 to the outbreak of the War remained fairly constant The bulk of the imports came from the United Kingdom, the proportion of imports from that country to total imports in 1913-14 being 86 per cent.

The imports of piece-goods rapidly increased in the two or three years preceding the War, and amounted to 3197 million yards in 1913-14 The proportion borne by Indian mill production to imports increased steadily from 19 per cent in 1899-1900 to 36 per cent in 1913-14

During the War-period (1914-15 to 1918-19) the number of mills as well as the number of spindles practically remained stationary but the number of looms increased by 25 per cent The exports of yarn, after rising to 178 million lbs in 1916-17, fell to 73 million lbs in 1918-19. This was chiefly due to the competition of Chinese and Japanese yarn in the Chinese market But a contributing cause was the neglect of the foreign market owing to the large profits which could be made locally

The three years immediately following the close of the War were a period of great prosperity for the mill industry. All mills were working to their full capacity and there was a marked increase in the production of yarn and cloth The capital investment in the industry almost doubled between 1917-18 and 1921-22, the figures being 20 84 and 40·98 crores of rupees respectively. High profits were earned in Bombay and elsewhere The percentage of dividends to paid-up capital in the case of Bombay mills was 40 1, 35 2 and 30 0 in 1919, 1920 and 1921 respectively The boom was followed by the inevitable depression Stock of yarn as well as cloth increased, and attempts to force down wages led to strikes The net profit fell from 388 lakhs in 1922 to 33 lakhs in 1923 and became a loss of 92 lakhs in 1924 and 134 lakhs in 1925 Of 59 mills in Bombay for which information is available, 43 made a loss in 1925 and 16 a profit

It may be pointed out that while Bombay is the most important centre of the cotton mill industry the number of cotton mills in the rest of India far exceeds that in Bombay Of the 274 mills actually working in 1925, 77 were in Bombay, and 58 in Ahmadabad, while the remaining 139 were distributed all over the country

The lowest point of the depression was reached in Ahmadabad in 1923, in which year there was a strike of over 2 months' duration in that place On the whole Ahmadabad mills fared somewhat better during the period of depression than the Bombay mills In other parts of India conditions approximated more closely to those in Ahmadabad than to those in Bombay

A demand for protection was made by the industry in 1926 An inquiry was made by the Tariff Board, and by a majority the Board recommended an increase in the existing 11 per cent duty on all cotton manufactures other than yarn, and the grant of a bounty on spinning yarn of counts 32s and above Both proposals were rejected by the Government

It was, however, established by the Tariff Board that on account of inferior labour conditions in Japan, there was an element of unfairness in Japanese competition, and that the stabilisation of exchange at 1*s*. 6*d* undoubtedly imposed a handicap on the Indian industry.

The production of piece-goods in Indian cotton mills in certain years is shown by the following statement

Piece-goods produced in Indian cotton mills in million yards.

Year ending 31st March	Million yds
1900-01	422
1913-14	1,164
1917-18	1,614
1921-22	1,732
1925 26	1,954
1926-27	2,258
1927-28	2,356

In seven months from 1st April to 31st October 1928, production amounted to 892 million yds as compared with 1395 million yds in the corresponding period of 1927, and 1316 million yds in 1926. Bombay, where conditions were disturbed on account of a prolonged strike, is chiefly responsible for the decrease.

The total consumption of piece-goods in 1927-28 may be thus estimated

Consumption of cotton piece-goods in India

		1927-28	1913-14
		Million yards	Million yards
1	Imports of foreign piece goods	1,973	3,197
2	Re-exports of foreign piece goods (by sea)	33	155
3	Net imports (1—2)	*1,940*	*3,042*
4	Mill production	2,356	1,164
5	Handloom production	1,316	1,068
6	Total Indian production (4 + 5)	*3,672*	*2,232*
7	Exports of Indian piece-goods	168	130
8	Balance of Indian piece-goods available for consumption (6 − 7)	3,504	2,102
9.	Balance of foreign and Indian piece-goods available or consumption (3 + 8)	*5,444*	*5,146*
10	Population, millions	321	316
11	Consumption per capita	16 96	16 28

These figures are striking. It is seen that (1) the total quantity of piece-goods available for consumption in 1927-28 was slightly greater than in 1913-14, and (2) of the total demand for cloth, only 35·6 per cent. was met by imports in 1927-28 as compared with 59 1 per cent in 1913-14 It will also be seen that the hand-weaver is still flourishing in spite of the increased competition of Indian mills In 1927-28 handloom production was equal to 68 per cent. of the net imports and about 56 per cent. of the Indian mill production Exact figures of handloom production are of course not available The figure for 1913-14 is the estimate of the Tariff Board, that for 1927-28 has been thus arrived at

Handloom production in 1927-28

		Million lbs
1	Import of yarn	52
2	Re export of yarn	1
3	Net imports of yarn (1—2)	*51*
4	Indian production	808
5	Exports of Indian yarn	24
6	Net consumption of Indian mill production, (4—5)	784
7.	Total Indian consumption (3 + 6)	835
8	Yarn consumed in mills for production of woven goods, assuming 100 lbs of yarn = 112 lbs of cloth	506
9	Balance of yarn available for handloom industry (7—8)	329
10	Production of piece goods by the handloom industry, assuming 4 yards of cloth are produced per lb of yarn	*1,316* yds

The Match Industry

The growth of the match industry in India will be remembered as a classical example of the beneficial effects of protection under favourable conditions. Before the year 1921 there was only a single match factory (the Gujrat Islam Match Factory of Ahmadabad) which, in spite of severe foreign competition, could make a small profit The imports of matches in 1919-20 amounted to 15 millions gross of boxes In March, 1921, the duty on imported matches, which had already been raised from 5 per cent *ad valorem* to 7½ per cent in March, 1916, was fixed at 12 annas per gross, and in March, 1922, it was raised to Rs 1-8-0 per gross All these changes in duty were determined by fiscal necessity The increase in duty in 1921 and 1922 took place at a time when the Government of India were faced with a succession of budget deficits.

"With the imposition of a duty on imported matches," says the Report of the Tariff Board on the match industry, "varying between 100 and 200 per cent *ad valorem*, the position changed rapidly "*

The increased duty was leviable on finished matches, not on undipped splints and veneers, and arrangements were made to import the latter from Japan The manufacture of matches from imported veneers and splints proved very profitable From 1st March, 1924, specific duties were imposed by Government on veneers and splints for the sake of revenue But in the meantime Indian manufacturers had gained some experience of match manufacture They now imported machinery for the manufacture of splints, veneers and boxes aspen wood, on which a 15 per cent *ad valorem* duty is levied, was imported from Japan or Sweden An Indian match industry thus came into existence

The Tariff Board estimated that in 1927, 27 match factories existed in India, with an outturn capacity of 500 gross a day or over, and a total capacity of about 18 millions gross annually

The demand for matches in India is about 17 millions gross, in 1926-27 Indian production was about 10½ millions gross boxes

With the growth of internal production imports have rapidly declined. This is shown by the following table

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* *Report*, *p* 4

Imports of matches (millions of gross boxes)

	Japan	Sweden	Total (including other countries)
1915-16	15 3	2 3	18 3
1919-20	13 9	9	15 0
1920-21	10 0	2 3	12 4
1921-22	12 7	9	13 7
1922-23	8 3	2 7	11 3
1923-24	5 6	5 2	11 2
1924-25	3 5	3 0	7 3
1925-26	2 3	4 8	7 9
1926-27	1 0	4 5	6 1
1927-28	3	2 9	3 5
1928-29	08	1 3	1 5

The figures given above are a striking proof of the success of the Indian industry. It will be seen that the total imports have declined from over 18 millions gross boxes to less than 2 millions gross It is also seen that Japan dominated the Indian market during the War and for three or four years following its termination The Japanese industry succumbed to Swedish competition, and at the present time the Swedish Match Company which controls 60-70 per cent of the total world's demand, has a controlling interest in about 80 per cent of the Japanese industry

The Swedish Match Company established six match factories in India between July 1924 and September 1926, of which four were working in 1926-27 The Tariff Board estimated the approximate capacity of the factories belonging to, or under the control of, the Swedish Match Company at about 6 millions gross a year

Indian manufacturers fear that the object of the Swedish Match Company in establishing factories in India is to destroy Indian competition and to capture the Indian market The Tariff Board admitted that "the resources of the Swedish Match Company are sufficient, if it so desired, to crush, for a time at least, all competition from Indian firms, and capture for itself the whole of the Indian market "*

Mr Iver Kreuger, however, on behalf of the Swedish Match Company has denied that the object of the Company is to establish a monopoly—it only wishes "to compete on equal terms with its competitors "† The Tariff Board did not find anything in the activities of the Company which called for Government intervention, on the other hand, the Board regarded the existence of the Company's factories as of "distinct economic value to the country," because of the high standard of quality at the Company's factories, and of the training afforded to Indians in these factories in improved methods of match manufacture.

The prospects of match manufacture in India are bright The home market is large and labour is cheap As regards match wood, the supply in Indian forests is sufficient for the annual production of nearly half the requirements of the Indian industry, and it can be further increased by plantation The industry, however could not develop without protection, chiefly because Swedish competition is unfair The Tariff Board found that the Swedish Match Company were importing matches from Sweden at a price below the economic level.

It deserves to be noted that in consequence of the growth of production, price in India is determined by internal competition, and that while costs of production have fallen, the quality has improved In the beginning matches made in Indian factories were of inferior quality but gradually the quality improved, and after making exhaustive tests, particularly in the monsoon months, the Tariff Board were able to say that "the matches manufactured of Indian wood in the most up-to-date factories, though less finished in appearance than imported matches," were, "for practical purposes little inferior," and that several manufacturers in India produced matches of superior quality which could not be distinguished from imported Swedish matches *

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* *Report*, p 90

† Mr Iver Kreuger's Memorandum

On the recommendation of the Tariff Board the duty of Re 1-8 per gross has been declared a protective duty. No definite period has been fixed after which protection will be withdrawn

Protection to the match industry has not sacrificed the interests of the consumer for the sake of the producer. The retail price that has been charged for several years is 1 pice a box for Indian matches (2 pice a box for imported matches) This price will tend to be maintained as the pice is the smallest coin largely in use

Paper-making

The Government decided to assist the bamboo and the papar pulp industry in 1925 by the imposition until March 31, 1932, of a specific protective duty at the rate of 1 anna per pound on all printing paper (with certain exceptions) which contains less than 65 per cent of mechanical pulp and on all writing paper

The grant of protection to the Indian paper industry marks a new phase in the development of the industry. Paper has been manufactured in Indian mills for more than 50 years now After the War the industry much suffered on account of dumping by foreign manufacturers of paper, and the rise in exchange added to the difficulties against which Indian manufacturers had to contend. Competition from Scandinavia and Germany before the War made all Indian companies lose, but they made considerable profits during the War. After the War intense foreign competition started, assisted as it was by depreciated currencies, with the result that the Indian mills were undersold. Germany and England were chiefly responsible for dumping paper into India. The Scandinavian mills cannot afford to dump, as the domestic consumption of Norway and Sweden is small, and no manufacturer can dump 80 or 90 per cent of his output.

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* *Report*, *pp* 6 and 64

In the year 1926, 9 paper mills were working in India with a total output of 32,144 tons Since then a paper mill has been established in the Punjab (Jagadhri). The Tariff Board estimated the output of Indian mills at 33,000 tons a year, and expected, as the result of the expansion of the industry, that the output could be raised to 43,000 tons annually The imports of paper in 1923-24 amounted to 72,000 tons and in 1924-25 to 86,200 tons Imports have tended to increase during the past three years

Imports of paper (excluding pasteboard) in tons.

	Total	Protected imports
1926 27	86,806	16,826
1927-28	88,569	18,091
1928-29	99,321	19,047

The Tariff Board estimated the annual consumption of paper in India to be about 90,000 to 100,000 tons annually In view of the considerable increase in imports, the consumption in 1928-29 may have been about 120,000 tons.

The imports of paper in 1928-29 include·

	Cwts
News-printing paper	
Protected	9,413
Not protected	329,623
Total	339,036
Old newspapers	749,037
Pasteboard, millboard and cardboard	325,781

It is impossible to make newsprint in India Mechanical pulp has never been made from either grass or bamboo, the raw materials used in India We cannot have cheap newspapers unless we continue to use (imported) papers containing a high proportion of mechanical wood pulp, and it is for this reason that newsprint, which contains more than 65 per cent of mechanical wood pulp, was excluded from the operation of the protective duty

Old newspapers come almost entirely from the United Kingdom and are used largely in Bombay, Sind and Burma as the cheapest kind of wrapper No manufactured paper can compete at the prices at which old newspapers are sold

There are also certain kinds of papers which are not likely to be made in India expensive rag papers, all-coated paper such as art paper and special manufactures such as blue match paper and tissue paper, papers of a very superior quality, and cheap wrapping papers Lastly, Indian mills do not make pasteboard, millboard and cardboard.

The total market that Indian mills can hope to capture was estimated by the Tariff Board at about 20,000 tons

Paper has hitherto been made in India from *sabai* grass, but grass, on account of its high cost, has no chance in competition with bamboo pulp. The future belongs to the bamboo and the paper pulp industry.

Paper made from bamboo pulp is inferior to *sabai* grass paper in strength and durability, but for the great bulk of papers consumed in India bamboo fibre is quite good enough—certainly as good as wood, and possibly better The quantities of bamboo which are commercially available in India are enormous Mr Raill is of opinion that "from bamboo, taking only that which is available under possible manufacturing conditions, Burma, Bengal and South-West India could produce ten million tons of pulp per annum—India could therefore produce pulp for the whole world."*

India's bamboo resources are attracting the world's attention on account of the shortage of wood pulp. The rapid destruction of forests is chiefly responsible for this shortage It is stated that in the United States forests are being destroyed four times faster than they grow, and that in Canada only 27 per cent of the original forest wealth is left, and its pulp wood would be exhausted in less than 30 years Lord Rothermere, who represents probably the largest group in the world of paper-making, paper-consuming and forest owning concerns, has recently declared that on account of the shortage of pulp wood, the pulp and paper industry "is within measurable distance of a crisis"†

The advantage of using bamboo pulp in paper-making is that its supplies are practically inexhaustible. Bamboo is annually reproductive, wood requires 60 years to grow

We learn that two bamboo areas in Burma have been acquired by important groups in London, and others are being considered

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* Paper read to the Royal Society of Arts in 1921

† "Capital" (Calcutta), Indian Industries and Trade Supplement, December 13, 1928, p 74

The supply of raw material for the Indian paper industry is secure, and we may even say that when our bamboo resources are developed, our manufacturers of paper will be in a position of advantage as compared with European manufacturers But in certain other respects they enjoy no advantages

The cost of chemicals in India is high. Most of the chemicals required for the manufacture of paper are now made in India, but their prices are regulated by those of imported chemicals and they usually exceed the prices paid by European mills by the full amount of the sea-freight and landing charges, and in most cases, of the customs duties as well Another difficulty is that the chemicals have to be brought to the mills from long distances, and the transport charges are heavy Similarly most of the mills have to pay heavy transportation charges for coal. The best coal in India is found in one locality—the Raneegunj coal-field, and the paper mill which chooses to be near the sources of the raw material has to pay a heavy price for its coal. Indian labour is cheap, but when we consider the possibilities of expansion of our industry we cannot forget that the initial cost of paper mills in India is high—that of a new European mill is estimated to be three-fourths or two-thirds of the initial cost in India.

On the whole, the prospects of paper-making from bamboo pulp are hopeful While the manufacture of paper from *sabai* grass under conditions of absolute free trade, except in the Punjab, is considered to be impossible, it is expected that if the abundant supplies of bamboo which exist in India are developed, the industry will need no further assistance for many years than what the existing protective duty gives it, and that eventually, as the cost of wood pulp increases, the industry would be able to do without protection altogether.

Cement

One of the Indian industries which owe their development to the War is the manufacture of Portland cement. In 1914 a small quantity of cement was produced at Madras —945 tons, while imports in 1914-15 amounted to 165,723 tons. In the calendar year 1927 there were ten Indian companies manufacturing cement with an actual output of 477,640 tons, while imports amounted to 117,695 tons. The industry is of great national importance, as was seen during the War.

The cement industry in India enjoys many natural advantages. Limestone of excellent quality exists in many parts of the country. The longest distance over which limestone has to be conveyed is 32 miles. Suitable clay is found close to the works, and there are ample supplies of limestone and clay for a long period of years. Gypsum, the only other raw material needed, is also produced in India. The supplies of labour are adequate and the process of cement manufacture does not necessitate the employment of highly skilled workers from abroad. In respect of fuel, however, the cement industry is subject to a serious disadvantage. With one exception, all the companies are situated at long distances from the coal-fields, and the freight on coal is a very serious item in the cost of production.

The Indian market for Portland cement is a large and growing one. Between 1900 and 1910 the imports increased from 43,000 tons to 135,000 tons, and in the last two pre-War years, when home production was negligible, cement was being imported at a rate exceeding 140,000 tons a year. Indian production and imports between 1914 and 1927 are as follows.

Figures in 1000 tons

	Indian production	Imports. *	Total imports and production
1914	9	166	167
1915	18	142	160
1916	39	98	136
1917	74	85	159
1918	84	27	111
1919	87	93	180
1920	91	138	229
1921	133	129	262
1922	151	137	288
1923	235	124	359
1924	263	124	387
1925	360	106	466
1926	376	95	471
1927	478	117	595

It will be seen that imports fell off heavily during the War, and in 1916 and 1918 consumption was substantially below the pre-War level. A rapid increase in consumption began after the War, and in 1927 consumption was more than 2½ times that for 1920, while production had increased more than five times

The bulk of the imports are from the United Kingdom During the five years immediately preceding the War the quantity received from the United Kingdom was nearly five-sixths of the total imports During the five years 1919-20 to 1923-24 four-fifths of the imports came from the United Kingdom A small quantity of cement is imported from Germany and Belgium, but in spite of the fact that Continental cement sells in India at a price

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* Fiscal, not calendar years, excepting 1924—1927 (both inclusive)

Imports for the calendar years 1925—1927 have been taken from Accounts of the Sea-borne Trade and Navigation of British India for the Calendar year 1927, and production from the "Capital," Indian Industries and Trade Supplement, 13th December 1928, p 51 For figures for other years, see Report of the Tariff Board on Cement substantially lower than that of British cement, the latter is preferred. *

The principal market for cement in India is in the ports, and especially in Calcutta and Bombay. This gives an advantage to the importer of cement over the Indian manufacturer, for with five exceptions, no Indian factory is within 600 miles of a port, and 4 out of the 5 are 1,000 miles and upwards from the coal fields There are no cement works within 350 miles of Calcutta and none within 250 miles of Bombay The Indian manufacturers enjoy a great natural advantage in respect of the up-country market, but this is not important

During the War Indian cement factories (3 in number) were working under Government control, and the great bulk of their output was taken by the Indian Munitions Board at a price not exceeding Rs 55 a ton *ex-works*. Control ended in the middle of 1919 and the companies were able to sell their product at very remunerative prices, which were, however, much below the price of British cement In 1922 the price of Indian cement began to fall, and it fell still more heavily in 1923—25 when the production of the new factories came on the market. The fall in price was entirely due to production having exceeded consumption An application for protection was made to the Tariff Board which recommended the grant of a bounty, under certain conditions, on the cement conveyed to the ports The Government of India refused to take any action on the ground that there were objections of principle to conditional legislation, and that they saw no justification for Government intervention

The present condition of the cement industry is satisfactory. The figures given above show that 80 per cent.

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* In the year 1928-29, 91,000 tons of cement were imported from the United Kingdom, 14,000 tons from Japan and 5,000 tons from Germany, total imports 127,000 tons

of the Indian demand is met by the Indian industry. In spite of foreign competition Indian cement in a few years has captured almost the whole of the Indian market because of its quality, which is not inferior to that of British cement and superior to that of Continental cement *

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Departments of Industries now exist in every Province, and a brief reference might be made here to their work. This may be divided into (1) promotion of industrial and technical education, (2) furnishing of industrial intelligence and (3) encouragement of industries by means of exhibitions, maintenance of arts and crafts depots and by giving financial aid

The total expenditure of the Industries Department, Punjab, in the year 1927-28 amounted to a little more than 10¼ lakhs. The number of industrial schools in the Punjab is 23 They had 3,149 students on their rolls, of whom less than half were sons of artisans There are, in addition, 2 schools for the industrial education of girls

The Department also maintains a Central Weaving Institute at Amritsar, a Hosiery Institute at Ludhiana, an Institute of Dyeing and Calico-printing, and a Demonstration Weaving Factory both at Shahdara, near Lahore The Weaving Factory is run partly on commercial and partly on instructional lines. A Government Tannery was also started at Shahdara several years ago, but it proved a failure and was closed in December 1927.

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* "The Superintendent of the Government Test House, Alipore, who has made a large number of tests of Indian cement in his laboratories, gave it as his opinion, as far back as 1925, that Indian cement was rather better than imported cement, taking into consideration that it must be used under Indian conditions, and superior to Continental or other foreign cement"

"In spite of competition from outside, production steadily increased and Indian cement mainly by virtue of its quality became recognised as a sound product and in many instances was preferred to imported cement for important works in the country" ("Capital," Indian Industries and Trade Supplement, 18th December 1928, p. 51).

A large number of enquiries is annually dealt with by the Intelligence section of the Director of Industries Office. It is stated in the Report of the Industries Department for the year 1927-28 that the industrial and commercial public of the Punjab "have clearly begun to look upon the Industries Department as the only effective agency for solving industrial problems and shedding light on commercial difficulties." *

As regards financial aid, we learn that in the same year loans were granted to 12 applicants amounting to a total of Rs 54,300. Among exhibitions, an interesting feature is the running of a Demonstration Train on the North-Western Railway

The industrial schools or institutes controlled by the Industries Departments are mainly concerned with the hand-worker These Departments are useful only within a very limited sphere No one expects them to solve our industrial problems, and it may be doubted whether they will be able to play any part in the industrialisation of the country.

The development of industries is seriously hindered by the lack of financial facilities Industrial banks do not exist in India, and the ordinary commercial banks do not lend money for lengthy periods on the security of buildings and plant

The industrial Commission recommended the appointment of an expert committee to consider the question in detail. It is hoped that the Banking Enquiry Committee, which has been recently appointed, will also deal with the question of industrial banks

There is no doubt that Indian capital is now more readily forthcoming for investment in industries than before. But there is a large amount of dormant capital

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* *Report*, *p.* 5

which can be made available for industrial purposes only by the development of sound banking facilities.

The question of "flow of capital into India from external sources" was considered by a Committee appointed in 1925. As the Committee pointed out, the solution of the problem lies in the development of India's own capital resources. Under the existing political and economic conditions foreign capital cannot be kept out. The present policy is to make no discrimination between Indian and foreign capital except when Government grants particular concessions to an industry, where definite pecuniary assistance, such as a bounty, is granted to any particular undertaking. it is required (1) that reasonable facilities should be granted for the training of Indians and (2) in the case of a public company, that (*i*) it should be formed and registered under the Indian Companies Act of 1913, (*ii*) it should have a rupee capital, and (*iii*) a certain proportion of the Directors must be Indian

The Indian Tariff.

The general rate of duty levied on imports into India until 1860 was 10 per cent *ad valorem*, almost all goods exported were taxed at the rate of 3 per cent. The duty on imports was reduced to 7½ per cent in 1864 and 5 per cent. in 1875 Duties on exports were gradually repealed and in 1875 only rice, indigo and lac were still subject to duty.

The "reform" of the Indian tariff in accordance with the principles of free trade began in 1878 The duties on a great number of articles, including some of the coarser cotton goods, were remitted in that year, and in the following year the duties on grey cotton goods, except those of the finer qualities, were repealed. In 1882, with the exception of salt, all the remaining import duties were repealed.

The reasons which led the Government to abolish the cotton and other duties were not merely economic. But at the back of the mind of our administrators was the idea that such protection as the tariff afforded to Indian industries was economically indefensible Again, free trade was the policy of the United Kingdom, and it was thought to be wrong for India to levy duties on imports when the United Kingdom did not do so In the Financial Statement for 1878 we find the principles which governed the customs legislation of the United Kingdom, " now admitted axioms by all who recognise the theoretic advantages of free trade," held up as a model for India.

The abolition of cotton duties in 1879 met with a good deal of opposition in the Viceroy's Council, it was in opposition to the opinion of the majority of the Council that Lord Lytton carried out the measure

Financial pressure compelled the Government in 1894 to re-impose the tariff of 1875 with some modifications In December 1894 a 5 per cent duty was imposed on cotton goods and yarn imported into India, and a countervailing excise duty of an equivalent amount was imposed on cotton goods made in Indian power mills Referring to the excise in his speech on the Cotton Duties Bill on the 17th December 1894, Mr Westland (Finance Member) frankly admitted that he did not recommend the measure on its own merits The instructions of the House of Commons were that if the Government of India were obliged by financial necessity to impose a duty on cotton goods, an equivalent duty must be imposed on similar goods manufactured in India to deprive it of a protective character. Two years later the duty on yarns was removed and both the duty on cotton goods and the excise were lowered to 3½ per cent. *

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* The excise was abolished in April 1926

The Tariff Act of 1894 was amended in 1899 with a view to check the imports of bounty-fed sugar from Germany and Austria-Hungary. In two years, 1895-96 to 1897-98, the imports of sugar from these two countries increased from 35,956 tons to 107,452 tons The result was the closing of Indian sugar refineries in many places It was feared that if the imports continued unchecked, the cultivation of sugarcane would be abandoned and some other crop substituted for it

The customs tariff was completely revised in 1916 With effect from March 1, 1916, the general rate of duty was raised from 5 to 7½ per cent the free list was curtailed , the duty on iron and steel was raised from 1 to 2½ per cent and that on other metals from 5 to 7½ per cent , and the duties on articles subject to special rates, as arms and ammunition, liquors, cigars and cigarettes, were enhanced Export duties were also imposed on tea and jute The duty on cotton manufactures was not altered, as the proposal to raise it would have revived old controversies at a time when it was necessary to concentrate all attention on the War In the following year, however, financial reasons compelled the Government to raise the import duty on cotton goods from 3½ to 7½ per cent. without any change in the excise, which remained at 3½ per cent At the same time the export duties imposed on tea and jute in 1916 were doubled

The customs tariff was again recast in the Budget for 1921-22 The general rate was increased from 7½ to 11 per cent. Duties on liquors, sugar, tobacco and certain articles of luxury were raised and a specific duty of 12 annas per gross boxes was imposed on matches in place of the old 7½ per cent *ad valorem* duty

Under the stress of financial necessity the customs tariff was again revised in the Budget for 1922-23. The general tariff was raised from 11 per cent to 15 per cent, but the duty on cotton goods was not altered. The duties on iron and steel, railway material, sugar, alcoholic liquors, and imported petroleum were considerably enhanced The duty on matches was doubled, and a duty of 5 per cent was imposed on imported yarn

The whole question of India's fiscal policy was examined by the Fiscal Commission of 1921-22 The report of the Commission was not unanimous, the minority recommending 'Protection' and the majority 'Protection applied with discrimination' The difference between the two points of view, for all practical purposes, is slight, for protection must always be applied with discrimination A Tariff Board was constituted in accordance with the recommendations of the Fiscal Commission, its work in connection with the more important industries which applied for protection has been referred to above In dealing with claims for protection the Tariff Board has to satisfy itself (*a*) that the industry possesses natural advantages, (*b*) that without the help of protection it is not likely to develop at all, or not so rapidly as is desirable, and (*c*) that it will eventually be able to face world competition without protection

The chief objects of the Commission in recommending the adoption of a policy of discriminating protection were to reduce the burden which protection inevitably imposes upon the consumer, to prevent the establishment of unsuitable industries (which might be the result if all kinds of industries were indiscriminately protected), and to minimise the effect of protection on the balance of trade, or to maintain a favourable balance of trade

With the exception of protective duties levied on iron and steel, paper and matches* (including undipped splints and veneers) the Indian Customs Tariff is a revenue tariff. While the general rate of duty is 15 per cent *ad valorem*, certain articles, as books, machinery, grain and pulse and some raw materials are admitted free of duty, others such as liquors, tobacco, fire-arms, motor cars, etc., are liable to non-protective duty at special rates . and still others pay a duty of 2½ or 10 per cent *ad valorem*

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* Transferred to protective duty group with effect from 25th September 1928.

Small export duties are levied on raw jute and jute manufactures, a duty of 3 annas a maund is levied on rice and of 5 per cent *ad valorem* on hides and skins In 1928-29, the gross amount of duty collected on imports (including salt) was about 13 crores, and on exports a little more than 5½ crores.

Labour in Manufacturing Industries.

The number of factories in India and the number of persons employed in them (daily average) are shown by the following table.

Factories in British India in the year 1926

		Number of factories	Persons employed (daily average)
A	Government and Local Fund Factor	302	144,519
B	All other factories		
I	Textiles	108	681,613
II	Engineering	532	161,892
III	Minerals and metals	118	55,842
VI	Food, drink and tobacco	2,559	170,585
V	Chemicals, dyes, etc	108	46,013
VI	Paper and printing	285	28,466
VII	Processes relating to wood, and glass	335	38,063
VIII	Processes connected with skin hides	36	5,375
IX	Gins and presses	2,217	178,290
X	Miscellaneous	51	7,733
	Total British India	7 251	1,518,391
	Total Indian States	1,130	168,866
	Grand total	8,381	1,687,257

The number of factory workers is 5 per cent of the population classified according to occupation at the census of 1921 (316,055,000).

Of the total number of factories 1,198 were situated in the Madras Presidency, 1,398 in Bombay and 1,234 in Bengal.

At the census of 1921 information was collected about businesses employing 10 persons or more. The total number of persons employed in 15,606 businesses in all India, excluding agriculture but including the growing of special products as coffee, indigo, tea, rubber, etc, and mining and quarrying, was 1,994,314 males and 686,811 females, a total of 2,681,125 persons, or 85 per cent of the whole population

Industries support 10 per cent of the population but, it is seen, that those employed in organised industries are very small in number. The typical Indian worker, whether on the land or in industries, is not a wage-earner who works for a master. he is an independent man working on his own account

The factory worker is primarily an agriculturist An industrial proletariat, in the sense in which the term is used in the West, for the most part, does not exist in India

A brief summary of legislation enacted to safeguard the interests of factory labour is given below

The first Indian Factories Act was passed in 1881, the Act was amended in 1891 and replaced by a new Act in 1911.

The Act of 1911 contained special provisions regarding the employment of labour in the textile mills The Indian Factory Commission of 1908 had reported that excessive hours were not worked except in textile mills, hours of employment for adult males in textile factories were, therefore, limited to 12, and for children to 6 (subject to certain exceptions) Hours within which work must be done and mechanical and electrical power used, were also fixed

The Act of 1911 was amended in 1922 in order to give effect to the decisions of the International Labour Conference held at Washington in 1919 The chief features of the Act of 1922, as amended in 1923 and 1926, are the following A 'factory' means any premises (*a*) wherein mechanical or electrical power is used and not less than 20 persons are employed daily, and (*b*) any premises wherein not less than 10 persons are employed daily, whether power is used or not Hours of work are 60 per week and not more than 11 per day, the minimum age of employment is 12, and adult labour is not exacted till the age of 15, employment of women and children at night is prohibited and provision is made for a weekly holiday.

By the Indian Mines Act of 1923 the weekly hours of employment have been limited to 60 per week for work above ground, and 54 per week for work below ground.

Trade Union Legislation Mr N M Joshi, M L A, of the Servants of India Society, moved a Resolution in the Legislative Assembly in March 1921, recommending the enactment of legislation for the registration and protection of Trade Unions The Trade Union Act was finally passed in March 1925 and came into force on 1st June 1927. A Trade Union has been defined in the Act as "any combination, whether temporary or permanent, formed primarily for the purpose of regulating the relations between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business." The definition includes any federation of two or more Trade Unions.

The registration of Trade Unions is not compulsory, but any seven or more members of a Trade Union may, under certain conditions, apply for the registration of the

Trade Union under the Act.

The two chief features of the Act are the principle of immunity in respect both of civil and criminal proceedings against a Trade Union, and the constitution of a separate fund for political purposes Only registered Trade Unions will benefit by the legislative recognition of the principle of immunity

From the political fund payments may be made "for the promotion of the civic and political interests" of the members of a Trade Union This includes payment of any expenses incurred, either directly or indirectly, in connection with the election of candidates as members of legislative bodies or their maintenance, and the holding of political meetings of any kind, or the distribution of political literature or political documents of any kind.

It has also been provided that not less than one-half of the total number of officers of every registered Trade Union shall be persons actually engaged or employed in an industry with which the Trade Union is connected. The object of this provision is to prevent a Trade Union from passing under the control of outsiders

Trade Disputes Act A Bill making provision for the investigation and settlement of trade disputes was placed on the Statute book in April 1929 It is an important measure affecting the relation of the employers and the employees

Similar legislation was first mooted in 1919 In 1924 the Government of India prepared a draft Bill to enable the investigation and settlement of trade disputes As a result of the experience which has been gained since then, the Government became more and more convinced that such legislation would prove of considerable value The seriousness of the industrial situation was brought home in 1928 when a wave of industrial disorder overtook the country. The general strike in Bombay alone is estimated to have caused a loss of £21,000,000.

The Act is divided into three main parts The first portion relates to the establishment of tribunals for the investigation and settlement of trade disputes. If any such dispute exists or is apprehended, the Local Government or the Governor-General-in-Council may refer the dispute to a Court of Inquiry or a Board of Conciliation appointed for the purpose On a Board of Conciliation, when it does not consist of independent persons, the parties to the dispute will be equally represented

Neither party to a dispute would be under any obligation to accept the findings of a Court or the advice of a Board of conciliation, but the decision of the Court or the Board will be published, and public opinion counts in such matters

The second part of the Act relates to public utility services A public utility service is defined as any railway which the Governor-General-in-Council may so declare for the purposes of the Act any postal, telegraph or telephone service, any undertaking or business which supplies light or water to the public, and any system of public conservancy or sanitation Clause 15 of the Act makes it a penal offence for workers employed on monthly wages in public utility services to strike without previous notice

The clauses relating to illegal strikes and lockouts follow closely the provisions of the British Trade Disputes and Trade Unions Act of 1927 They would apply when both of the following two conditions are satisfied (1) a strike or lockout must have other objects than the mere furtherance of a trade dispute within the industry concerned, and (2) a strike or lockout must be designed to coerce the Government either directly or by inflicting hardship on the community

Workmen's compensation It is proposed to amend the Workmen's Compensation Act of 1923, which came into force in July 1924 The Act applies only to persons employed in those branches of industry which are both organised and hazardous Ten classes of workmen are covered by the Act Some of these (members of fire-brigades, telegraph and telephone linesmen, sewage workers, and tramway men) are small in number The important classes are the workers in factories, mines, docks and on the railways It is now felt that there is no justification for the exclusion from the benefits of the Act of some classes of workmen engaged in industries which are not organised, and in which accidents occur less frequently but still do occur, for example, workers on plantations At the same time the Government of India feel that unless some scheme of compulsory insurance can be introduced, it would be unwise to contemplate any large extension of the scope of the Act The endeavour to introduce any scheme of compulsory insurance, at any rate in unorganised industries, would be attended by serious administrative difficulties

It is also proposed to raise the scale of remuneration The adoption of the minimum scale laid down by the 7th International Labour Conference would involve an enhancement of one-third in the rate of payment for temporary incapacity, and would probably involve substantial enhancements of amounts payable on account of death or permanent incapacity Such enhancement, it is felt, would be justified in the case of the more poorly paid workers But a general revision of the existing scale in the case of all workers seems to be necessary

The existing scale is as follows for death the relatives receive 30 months' wages, subject to a maximum of Rs 2,500, if he was an adult (minor Rs. 200). If a workman is completely disabled for life he gets 42 months' wages if he is an adult and 84 months' wages if a minor, subject in each case to a maximum of Rs 3,500. For permanent injury, which does not completely disable a worker, certain proportions of the above sums are paid. There are also provisions for the minor and the more common injuries No compensation is paid on account of the first 10 days of disablement The rate of payment for temporary disablement is half wages for adults and two-thirds wages for minors, subject to certain conditions.

Other questions under consideration in this connection are whether recurring payments may be substituted for lump sums payable under the Act, whether the compensation payable should vary with the number of dependents on the deceased workman, and what steps, if any, should be taken to ensure that the dependents who may have valid claims for compensation do not lose compensation through ignorance The last point is of some importance in a country where the overwhelming majority of the workers are illiterate and ignorant

Methods of Wage Payment in India At most of the industrial centres in India and particularly in Bombay, there is a monthly system of wage payment, and this is a great evil Apart from the monthly payment of wages, the employers of labour throughout India always keep in hand a certain proportion of wages—that is wages are not paid at the end of the month, but 15 days later. A new hand employed in a cotton mill in Bombay thus gets his first month's wages after six weeks

The result of this system of payment is that the labourer cannot help running into debt He has to pay higher prices when he buys on credit, and for money borrowed he has sometimes to pay rates of interest as high as 150 per cent. He must repay his debt when he receives his wages, and very little money is left with him for the remainder of the month He borrows again, and thus can never get out of the vicious circle It is obvious that if a worker got weekly wages, he would buy things for cash, not credit.

Accumulated six weeks' wages are a great weapon in the hands of the employer. The advantage of paying wages late and not promptly at the end of the month, from the point of view of the employer, is that the labourer cannot leave the mill without forfeiting the wages kept back. The millowners claim that workers who give due notice that they mean to leave the mill get the money due them before they go But in cases of illness of the worker or his relatives, it is impossible to give a fortnight's notice Where there is a scarcity of industrial labour, and where labourers have formed the habit of wandering from mill to mill, it is easy to understand that the employer will be anxious to keep a hold over his men, but the system of keeping back a certain proportion of the wage works against the labourer.

The employers of labour in India are opposed to the weekly -system of wage payment, and the Government is also opposed to its introduction It is argued that the change would not help the labourers, or save them from the clutches of the money-lenders, but lead to contracton of credit It is, however, generally agreed that the period during which labourers have to wait to receive their payments must be reduced It is proposed to fix by Statute the period within which wages must be paid—7 days in the case of the monthly worker , 4 days for fortnightly workers , 2 days for weekly, and 1 day for daily workers.

* * * * *

Reference has been made above to the general outbreak of strikes in the year 1928 The total number of disputes during the year was 203, which involved 506,851 workpeople and resulted in a time-loss amounting to 31,647,404 working days The total number of working days lost was even greater than the total of working days lost in the five preceding years put together.

The details by classes of establishments are shown below ·

Classes of Establishments	Number of disputes	Number of work-people involved in 1000	Number of working days lost in 1000
Cotton and woollen mills	110	323	24,851
Jute mills	19	64	1,556
Engineering workshops	11	37	3,148
Railways (including Railway workshops)	9	49	1,874
Mines	1	1	5
Others	53	31	211
Total	203	506	31,647

The disputes were most frequent in Bombay where 111, or nearly 55 per cent of the total number of disputes occurred during the year The general strike in the Bombay textile mills lasted nearly six months

Causes of disputes in 1928 are shown by the following statement

Causes of disputes By classes of establishments

Classes of Establishments	Pay	Bonus	Personnel	Leave and hours	Others.
Cotton and woollen mills	56		28	4	22
Jute mills	7		7	1	4
Engineering workshops	6		1		4
Railways, including Railway workshops	6	1	1		1
Mines					1
Others	34		7	1	11
Total	109	1	44	6	43

About 50 per cent of the disputes in Bombay, over 60 per cent of those in Bengal, and all the five disputes in Assam arose over questions regarding wages

The results of the majority of the disputes in Bombay, Bengal, Assam and Behar and Orissa were unfavourable to the workers. Of the 110 disputes in the cotton and woollen mills only in 34 cases, (17 per cent of the disputes) were the operatives able to secure either entire or partial success, in the case of jute mills, the corresponding percentage amounted to 1.5.

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Much light is thrown on the conditions relating to the well-being of the working classes in Bombay City and Island by the report, published in 1923, on an enquiry into working class budgets in Bombay, undertaken in 1921-22 by the Labour Office, Bombay. 2,473 working class family budgets, and 603 single men's budgets—a total of 3,076 budgets, were collected. About half the budgets referred to cotton mill workers, the remainder being budgets of municipal workers, dock labourers, and railway and engineering workers. The average working class family consists of 4.2 persons, *viz.*, 1.1 men, 1.1 women, and 2.0 children under 14, exclusive of 6 dependents living away from the family. The average earnings of the family per mensem of all the 2,473 families is Rs 52-4-6. If we include average earnings in the 603 single men's budgets (Rs 43-10-3 per mensem) the average earnings of men for the total of 3,076 budgets drop to Rs 42-9-6 per mensem. The income of 75 per cent of the families for which budgets were collected ranges between Rs. 40 and Rs 70 per mensem. How is the income spent? The percentage expenditure on the main groups was as follows —

Food	56.8	per cent
Fuel and lighting	7.4	,,
Clothing	9.6	,,
House rent	7.7	,,
Miscellaneous	18.5	,,
	100.0	

Thus more than half the total family income was spent on food. The percentage of expenditure on food was found to decrease as the income increased, thus confirming Engel's Law. When these results are compared with the results of similar enquiries in other countries it is found that the proportionate expenditure on food in countries with a high standard of living, as the United States, the United Kingdom and Australia, is lower than in India.

The quantity of food consumed by the industrial workers in Bombay is insufficient "The general conclusion," says the report, "is that industrial workers consume the maximum of cereals allowed by the Famine Code, but less than the diet prescribed in the Bombay Jail Manual" The following table shows the daily consumption of cereals and other articles of food per adult male in lbs as arrived at from 2,473 budgets of working class families in Bombay, and the jail allowance —

Articles	2,473 FAMILY BUDGETS	BOMBAY JAILS	
	lbs.	Hard labour, lbs	Light Labour, lbs
Cereals	1 29	1 50	1 38
Pulses	09	27	21
Beef and mutton	03	04	04
Salt	04	03	03
Oils	02	03	03
Others[*]	07		
Total	1 54[†]	1 87[‡]	1 69

It is a remarkable fact that workers in one of the leading Indian industries do not get more cereals to eat than the famine allowance for diggers and that they actually get less than the jail allowance for prisoners "The standard of comfort," says the report, "is not high.

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[*] Includes sugar, tea milk and ghee (clarified butter)

[†] Exclusive of sweetmeats, condiments, spices, vegetables, fruits, fish, refreshments, and other food for which no estimates available

[‡] Exclusive of onions, condiments, vegetables and tamarind.

The necessaries for efficiency are not as great as they ought to be." One may doubt whether the necessaries for existence in the case of the majority of workers are as great as they ought to be

As regards fuel and lighting, working class families do not use gas or electricity, kerosine and wood represent the whole expenditure under this head. The expenditure on clothing was found to be particularly low in the lowest income class (below Rs 30 per mensem), and it is a cause of indebtedness. As regards housing, 97 per cent of the working class families whose budgets were tabulated were living in overcrowded single rooms Since then the Bombay City Improvement Trust and the Development Directorate of the Government of Bombay have made some progress in solving the problem of industrial housing. About 50 per cent of the textile mills in the Bombay Presidency now provide sanitary dwellings for their workers

The working class families, except the highest income class, spend practically nothing on education. At least 4 per cent of the total expenditure is accounted for by drink—the percentage is higher in the case of some classes The consumption of liquor by the industrial population has increased, and this is probably connected with the conditions under which the industrial workers live, 47 per cent of the working class families were found to be in debt The annual rate of interest paid was one anna in the rupee per mensem, or 75 per cent per annum

Factory Labour in the Punjab The number of factories in the Punjab is 546 (1927) Of these more than half (341) are cotton gins and presses The average number of labourers daily employed in these factories in the same year was 50,088, of the total 20,428 were employed in cotton gins and presses and 12,476 in Railway workshops.

On the whole industries are of very little importance in providing employment for labour in the Punjab

The wages of the factory labourer are low. In 1927, excepting the fitter whose average monthly earnings amounted to Rs 62, the wages of skilled labourers (monthly average) varied between Rs 22 [press distributors, reeler (woman) and dyer] to Rs 45 (*Mochi* and carpenter)* The average daily wages of unskilled labourers were as follows

	Re.	as	p
Coolie, opener	1	0	0
Coolie (man on gins)	0	8	0
Coolie (woman ,,)	0	6	0

There has been little change in wages during the past four or five years.

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* *Report on the Working of the Indian Factories Act, Punjab, 1927.*

CHAPTER XXV

RAILWAYS.

The chief matters of interest in connection with railway administration and policy in recent years are (1) the transfer of the East Indian and the Great Indian Peninsula Railways to State management, (2) the separation of railway finance from the general finances of the country, and (3) the adoption of a policy of Indianisation of railway services

The question of the future management of Indian railways was considered by the Acworth Committee of 1920-21 but, unfortunately, the recommendations of the Committee on the subject were not unanimous The President and four of the members recommended State management, and the other five members management by companies domiciled in India In February 1923, however, when the question of the future management of the East Indian and Great Indian Peninsula Railways was debated in the Legislative Assembly, the non-official Indian members were able to carry a resolution recommending the placing of the two lines under State management at the close of their contracts This has been done, but the policy of State management of railways has not been accepted by Government. The Government view is thus explained in the Railway Administration Report for 1922-23 "The Government of India, however, expressed themselves as being so convinced by the almost universal failure of this method [State management] in other countries that they proposed, while accepting the necessity for taking over the management of the East Indian and Great Indian Peninsula Railways, to continue their efforts to devise a satisfactory form of Company domiciled in India to take these Railways over eventually on the basis of real Company management" (para 14).

Real company management is however, impossible in India A company can effectively manage a concern when the money invested is its own and when it enjoys undivided responsibility for management. In the case of the more important lines, however, the greater part of the capital was found by the Government. The Government is the real owner, and it cannot hand over its property to a company to be managed as the company pleases

Company management under Indian conditions means a division of responsibility which does not make for efficiency It may be possible to show that Company management has succeeded in other countries and that State management has failed, but there is general agreement in India with the view expressed by the Government of India in a Despatch to the Secretary of State dated, 17th August 1917, that "so far as efficiency is concerned there is really nothing to choose between a Company-managed line in this country and one under State management"*

Further, Indian public opinion is overwhelmingly in favour of State management, and Indian opinion on such a question is entitled to weight

The dissenting members of the Acworth Committee mention, as one of the grounds which lead Indian opinion to desire State management, the belief that the employment of Indians in the higher grades of railway service will be better secured under State than Company management. This is not the strongest argument in favour of State management, but still it is an argument which cannot be ignored. On the 1st of April 1924, the percentage of Indians employed on the East India, Great Indian

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* *Acworth Report*, para 230.

Peninsula and North Western Railways was as follows:

Percentage of Indians to the total number of	E I R	G I. P R	N W R. (Government)
Officers	15 6	11 3	21 2
Subordinates	11 1	20 0	36 0

When we remember that it is with money secured on Indian taxation that Indian railways have been almost entirely built, it is scandalous that for purposes of higher appointments the railways should be treated as practically a monopoly of Europeans, the desire to place Indian railways under State management so that Indians should have better opportunities of employment in the higher grades of railway service is a perfectly legitimate desire

It has been pointed out above that the Government have not accepted the principle of State management of Indian railways When, however, the question of separating railway finance from general finances was discussed in the Assembly in September 1924, the following agreement was reached between the Government and the Assembly

> "Government undertook that the arrangements for separation should hold good only so long as the East India Railway and the Great Indian Peninsula Railway, and the existing State managed railways, remain under State management, that no negotiations for the transfer of any of the railways to Company management should be concluded until facilities had been given for the discussion of the whole matter in the Assembly, and that, further, if any of the above railways were transferred to Company management, the Assembly should be at liberty to terminate the arrangements for separation"*

The separation of the railway budget from the general budget was unanimously recommended by the Railway Committee. "We do not think," they said, "that the Indian railways can be modernised, improved and enlarged so as to give to India the service of which it is in crying need at the moment, nor that the railways can yield to the Indian public the financial return which they are entitled to expect from so valuable a property, until the whole financial methods are radically reformed And the essence of this reform is contained in two things —(1) the complete separation of the railway budget from the general budget of the country, and its reconstruction in a form which frees a great commercial business from the trammels of system which assumes that the concern goes out of business on each 31st March and recommences *de novo* on the 1st of April, and (2) the emancipation of railway management from the control of the Finance Department "

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* *Railway Administration Report*, 1924-25, para. 5.

Under the old system the net receipts from the State railways (worked by State and by Companies) formed part of the general revenues of the country, out of which allotments, varying from year to year, were made for capital expenditure The Mackay Committee of 1907 emphasized the need for adopting a steady annual rate of capital expenditure which could be maintained even in times of difficulty, and they suggested Rs 18 75 crores as a standard But the following figures show that actual capital expenditure generally was much below the standard recommended by the Mackay Committee —

Lakhs	Capital Programme Lakhs of Rupees *
1908 09	15,00
1909-10	15,00
1910-11	16,30
1911-12	14,25
1912-13	13,50
1913 14	18,00
1914-15	18,00
1915-16	12,00
1916-17	4,50
1917-18	5,40
1918-19	6,30
1919-20	26,55
1920 21	21,98
1921-22	17,82

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* *Acworth Report*, para. 34.

The stoppage of railway development during the War was inevitable, but even in pre-War years the allotments were below the standard recommended by the Mackay Committee The consequences to the railways of this policy were serious "There are scores of bridges with girders unfit to carry train-loads up to modern requirements, there are many miles of rails, hundreds of engines, and thousands of waggons whose rightful date for renewal is long overpast"[*]

The main objection to the old system was that the whole of the excess of railway revenue over expenditure in years in which expenditure was low was utilised for the general purposes of the Government, and no reserve was kept for the railways

The Acworth Committee unanimously recommended that the whole of railway receipts, after paying the working expenses and interest on capital borrowed by the State for railway purposes, should be at the disposal of the railways, to be devoted to new capital requirements (whether directly, or as security for new debt incurred) or to reserves, or to be utilised in the form either of reduction of rates or improvement of service

With effect from the year 1924-25 the railway budge has been separated from the general budget Under the convention adopted by the Assembly in September 1924 the railways make a fixed contribution to the general revenues equal to 1 per cent on the capital at charge of commercial lines *plus* one-fifth of the surplus profits of the penultimate year. In addition to these payments the railway revenues have to pay one-third of the excess over 3 crores of any surplus remaining to the railways after the payment of the fixed contribution as explained above.

The interest on the capital at charge of, and the loss in working strategic lines is borne by the general revenues, and is therefore deducted from the amount of the fixed contribution.

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[*] *Acworth Report*, para. 68

As an example, we may consider the payment of 631 lakhs by the railways to the general revenues in 1927-28. The figure was arrived at as follows —

Based on actuals of penultimate year 1925-26. Figures in thousands of Rs.

		Rs
1	1 per cent on capital of Rs. 6,00,37 at charge of commercial lines to the end of 1925-26	6 00,37
2	Surplus (excess of receipts over charges)	4,74,25
3	Contribution of one fifth of surplus	94,85
4	Total contribution from Ry revenues, 1 *plus* 3	6 95,22
5	Loss on strategic lines	1,46,27
6	Net payment due from railways to general revenues in 1927-28 4 *minus* 5	5,48,95
7	Total gain from railways in 1927-28*	10,94,41
8	Excess of gain over contribution, 7 *minus* 6	5,45,46
9	Contribution equal to one-third of excess over 3 crores	81,82
10	Total contribution to general revenues during 1927-28, 6 *plus* 9	6,30,77

The annual contribution made by the railways to the general revenues since the separation of railway finance from general finances is shown below.

	Lakhs
1924-25	677
1925-26	549
1926 27	601
1927 28	631
1928-29	548 (revised estimate)
1929-30	625 (budget estimate)

The railways have certainly gained from the separation In 1921 it had been decided to fix the programme for capital expenditure for the quinquennial period beginning 1922-23 at Rs 150 crores, or Rs. 30 crores annually, but the actual capital outlay from 1922-23 to 1926-27 was a little less than 100 crores The main reason for the scale of expenditure not reaching 30 crores annually was the delay caused by the examination of the works proposed It was necessary, first, to co-ordinate railway requirements with financial considerations, and, second, to co-ordinate various parts of works which were to be undertaken

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* The total gain is found by deducting from the total receipts (including Government share of surplus profits from subsidised Companies and interest on Depreciation and Reserve Fund balances and other miscellaneous receipts), the total charges (including surplus profits paid to companies, interest and other miscellaneous charges).

However, the capital outlay in 1927-28 on State-owned lines amounted to 32 5 crores and in 1928-29 (revised estimate) to 26 crores, the budget estimate for 1929-30 is for 33 5 crores. It will appear that at present the expenditure on capital works is on a sufficiently liberal scale.

The following table shows the number of and earnings from passengers carried by railways separately for each class in 1913-14 and 1927-28

Passengers carried Class	1913-14 * Number (1000)	1927-28 Number (1000)
I	715	980
II	3,253	9,963
Inter	12,000	17,351
III	390,412	594,821

Earnings from passengers Class	1913-14 Lakh Rs	1927 28 Lakh Rs
I	69	1,14
II	89	1,96
Inter	1,03	1,69
III	18,37	34,39

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* For 1913-14 add 30,114,000 Season and Vendors' tickets of all classes and 19 lakhs of earnings from this source For 1927-28 the number of such tickets and their earnings are included under the respective classes

About 88 per cent of the earnings of Indian railways from passenger traffic are from third class traffic. The grievances of third class passengers, which are well-known, were brought to the notice of the Acworth Committee, and they form the subject of debate in the Assembly every year No class of passengers have a stronger claim on the railways as regards improvement of conditions under which they travel than third class passengers

The goods earnings in 1927-28 amounted to 67·34 crores from 85 82 million tons of goods carried

Indianisation.

The Acworth Committee recommended a policy of Indianisation of railways It drew pointed attention to the practical exclusion of Indians from the higher posts.

"At the date of the last report [1920-21] there were employed on the railways of India about 710,000 persons; of these roughly 700,000 were Indians and only 7,000 Europeans, a proportion of just 1 per cent But the 7,000 were like a thin film of oil on the top of a glass of water, resting upon but hardly mixing with the 700,000 below. None of the highest posts are occupied by Indians . very few even of the higher "*

On 20th September, 1924, a Resolution was adopted by the Legislative Assembly recommending to the Government the rapid Indianisation of the railway services A policy of Indianisation has been adopted, and it may be interesting to consider how effect is being given to it

The Railway Administration Report contains two statements in connection with Indianisation statement of Gazetted Officers on State-managed railways and officers of corresponding rank on Company-managed (Class I) railways (excluding H. E H. the Nizam's Guaranteed State and Jodhpur Railways), and statement of subordinates on scales of pay rising to Rs. 250 per mensem and over on the same class of railways.

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* Para. 182 of the Report.

On the 1st of April 1924 about 85 per cent of the Gazetted and 76 per cent of the subordinate posts were held by Europeans and Anglo-Indians The progress of Indianisation between 1924-25 and 1927-28 is shown by the following table —

Railway Staff

	European	Anglo Indian.	Indian	Total
1913 14	7,986	10,437	614,882	633,305
1922-23	6,883	12,129	730,668	749,680
1924-25	6,299	11,965	722,590	740,854
1927 28	5,110	14,374	780,618	800,102
1st April		*Gazetted Officers*		
1925	1,516	87	328	1,931
1928	1,485	182	511	2,178
		Percentages		
1925	*78 51*	*4 50*	*16 99*	*100 00*
1928	*68 18*	*8 36*	*23 46*	*100 00*
		Subordinate Service		
1925	2,810	2,949	2,081	7,840
1928	2,042	3,792	2,772	8,606
		Percentages		
1925	*35 84*	*37 62*	*26 54*	*100 00*
1928	*23 73*	*44 06*	*32 21*	*100 00*

It will be seen that both the number and proportion of Europeans in railway service in 1928 were less and of Indians greater than in 1925.

The figures for Anglo-Indians are interesting. They form one-twentieth of one per cent of the total population of British India, but their share of Gazetted appointments increased from 4·5 per cent in 1925 to 8·36 per cent in 1928, and of posts in subordinate service from 37·62 per cent to 44·06 per cent.

Government and Indian Railways.

Of the important railway lines, 4 are owned and worked by the State, six are owned by the State but worked on its behalf by Companies enjoying a guarantee of interest from the Government,* three important lines† and many others are owned by private Companies, some of which are worked by the Companies, while others are worked by the State or by the Companies which work State-owned systems. several minor lines are the property of District Boards, or enjoy a guarantee of interest by such Boards

Over all lines in British India, however, the Government of India exercise general powers of control they have also a financial interest in all Railway Companies in British India, and a preponderating interest in most of the important railways.

Railway construction started in 1849 when a contract was made with the East India Railway Company for the construction of an experimental line of 100 miles from Calcutta to Mirzapore or Rajmahal, the East India Company guaranteeing a return of 5 per cent on the capital invested, a similar contract was made in the same year with the Great Indian Peninsula Railway for a line from Bombay to Kalyan The question was considered whether railways should be constructed by the State directly, but Lord Dalhousie held the view that railway construction was not one of the functions of government, and in 1854 the policy of entrusting the work to companies enjoying a guarantee of interest was adopted. Contracts were made with several companies between 1854 and 1860 by which the East India Company (or the Secretary of State), besides providing land, guaranteed interest on the capital at 4½ to 5 per cent (according to the prevailing market rate of interest), it was also agreed that half of any surplus profits earned was to be used towards repaying the Government any sums by which it had made good the guarantee of interest, the remainder was to belong to the shareholders The railways were to be held by the Companies on leases terminating at the end of 99 years, but the Government reserved to itself the right of purchasing the lines after 25 or 50 years

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* The North-Western, Eastern Bengal, East Indian (amalgamated with the Oudh and Rohilkhund Railway from the 1st July 1925) and Great Indian Peninsula Railways are owned and worked by the State The Bengal-Nagpur Assam-Bengal, Bombay Baroda and Central India, Madras and Southern Mahratta, South India and Burma Railways are owned by the State but worked on its behalf by Companies

† The Bengal and North-Western, Rohilkhund and Kumaon and Southern Punjab

The guarantee system did not prove very economical, and in 1862 an attempt was made to promote railway construction by means of subsidies, instead of a guarantee of interest The system was further developed in 1864 The subsidy took the form of an annual payment for 20 years at a rate not exceeding £100 per mile of line, with an addition in respect of bridges costing more than £10,000 The subsidies, however, failed to attract capital, the two unguaranteed companies that had been formed in 1862 were later given a guarantee of interest It was recognised in 1869 that unguaranteed companies could not be expected to play any important part in the development of Indian railways

Two changes were now made in the Government policy in regard to railway construction. (1) It was arranged with some of the most important of the guaranteed companies that half of the surplus profits for each half-year should be the property of the Government. This was a more profitable arrangement from the point of view of the Government than the old provision regarding the division of surplus profits. (2) The Government decided to construct railways itself For several years after 1869 no fresh contracts with guaranteed companies were made except for small extensions

By the end of 1879 India had 8,303 miles of railway, of which 6,128 miles had been constructed by companies at an approximate cost of £97,872,000 and 2,175 miles by the State at a cost of £23,695,226

In 1880 the Strachey (Famine) Commission urged the necessity of a rapid extension of the railway system In view of the difficulty of borrowing large sums directly by the State for the purpose, the Commission recommended a re-trial of the guarantee system under conditions more favourable to the State Several companies were formed after 1880 with a guarantee of interest, but in each case the terms of guarantee given to the Companies were more favourable to the Government than in the case of the first guaranteed companies. For example, the Government guaranteed 4 per cent interest to the Indian Midland and Bengal-Nagpur Railway Companies, but the Secretary of State was entitled to three-quarters of the surplus profits in excess of all interest charges

The Government has freely exercised the right that it had reserved to itself of terminating the contracts of the railway companies In some cases the lines purchased have been transferred to State management (the Eastern Bengal, the Bengal Central, Oudh and Rohilkhund, and Sind, Punjab and Delhi lines for example) In other cases the lines were acquired and placed under the management of other companies with which they were amalgamated (the Madras and the Indian Midland lines), in still other cases the old company management was allowed to continue but more favourable terms were secured for the State by the reduction of the amount of the company's capital, reduction of the rate of guaranteed interest and modification of the clauses relating to the division of the surplus profits This method was adopted in the case of the East Indian and the Great Indian Peninsula Railways, besides other lines, but these two lines, on the termination of their contracts in December 1924 and June 1925 were transferred to State management *

The total mileage open to traffic at present is over 40,000

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*The relations between the Government and the guaranteed Companies now working railways may be summarised as follows —

The lines that they work are the property of the State

The greater part of the capital is the property of the Government, either through having been originally supplied by it or through the acquisition by the Government of the greater part of the Companies' interests on the termination of old contracts

When funds are required for further capital expenditure, the Government has the option either of providing them or of calling on the Company to provide them The Company receives guaranteed interest at a fixed rate on its capital, and similar payments out of the earnings are made to the Government If, after these have been made, surplus profits remain, they are divided between the Government and the Company in the various proportions provided for by the contracts The Company's share is in all cases only a small fraction of the Government's share

All the contracts, except one, which is for a fixed term of 25 years, are terminable at the option of the Secretary of State, at specified dates, and on termination the Company's capital is payable at par (except in the case of the East Indian Railway Company, which is for special reasons to receive a terminable annuity instead of a cash payment)

The Administrative control exercised by the Government over the Companies is as follows —

The Company is bound to keep the line in good repair, in good working condition, and fully supplied with rolling stock, plant, and machinery, to keep the rolling stock in good repair and in good working condition, and to maintain a sufficient staff for the purposes of the line, all to the satisfaction of the Secretary of State

The Secretary of State may require the Company to carry out any alteration or improvement in the line, or in the working, that he may think necessary for the safety of the public or for the effectual working of the line

The Secretary of State may require the Company to enter into agreements, on reasonable terms and conditions, with the administration of adjoining railways for the exercise of running powers, for the supply to one another of surplus rolling-stock, for the interchange of traffic and rolling-stock and the settlement of through rates, and for additions and alterations

Organisation for Government Control

The formation of a Railway Board was recommended in 1903 by Sir Thomas Robertson who had been appointed by the Secretary of State in Council as Special Commissioner for Indian Railways to enquire into and report on the administration and working of Indian railways. The Railway Board came into existence in 1905 It was made subordinate and directly responsible to the Government of India in the Department of Commerce and Industry

On the recommendation of the Mackay Committee on Railway Finance of 1907, the Board was made independent of the Department of Commerce and Industry, though it remained under the administrative charge of the Member, Commerce and Industry Department, as the Railway member

The Acworth Committee recommended the creation of a new Department of Communications responsible for railways, ports and inland navigation, road transport and

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to, or the redistribution of existing accommodation in junctions or other stations in view to their convenient mutual use

The train services to be such as the Secretary of State may require In order to secure a general control over the rates quoted by Companies the Secretary of State has retained power to settle the classification of goods and to authorise maximum and minimum rates within which the companies shall be entitled to charge the public for the conveyance of passengers and goods of each class

The Company has to keep such accounts as the Secretary of State may require, and these are subject to audit by the Secretary of State

In all other matters relating to the line, the Company is made subject to the supervision and control of the Secretary of State, who may appoint such persons as he may think proper for the purpose of inspecting the line, auditing the accounts, or otherwise exercising the power of supervision and control reserved to him. In particular, the Secretary of State has the right to appoint a Government Director to the Board of the Company, with a power of veto on all proceedings of the Board All the monies received by the Company in respect of the undertaking, whether on capital or revenue account, have to be paid over to the Secretary of State (Appendix A to Railway Administration Report.)

post and telegraphs under a member of Council in charge of Communications, assisted by a technical staff consisting, on the railway side, of a Chief Commissioner and four Commissioners The recommendations of the Acworth Committee were not accepted in their entirety by the Government, but the old Railway Board has been reorganised The present Railway Board consists of a Chief Commissioner as President, a Financial Commissioner and two members, the Chief Commissioner being Secretary to the Government of India in the Railway Department The superior staff under the Railway Board consists of 5 Directors, 4 Deputy Directors, a Technical Officer, 2 Assistant Directors, a Secretary and a Deputy Secretary

The guiding principles in the development of our railway system have been two, humanistic and Imperialistic.

The railway is an important means of famine protection It has been shown in Chapter V that the heavy mortality in famines in the pre-railway days was principally due to the difficulty of moving grain to the famine-stricken areas The difficulty has been largely overcome by means of the railway We have also seen that it was at the instance of the Famine Commission of 1880, which estimated that at least 5,000 miles were still necessary to protect the country from famine, that a more energetic policy in regard to railway construction was adopted.

In the second place, railways have helped in (*a*) the consolidation of political power and (*b*) the development of the export of raw produce and the import of manufactured goods

(*a*) The most economical method of building up the railway system, as Captain Guenther Voigt points out, would have been to begin from the east or the west coast and to expand the railway net inwards. The lines already built would have helped to carry railway material, and the cost of railway construction would thus have been reduced. But railway construction was started simultaneously from several points, and all considerations of costs were ignored The object was to link up the three Presidencies, with a view to facilitating the movements of troops from one part of the country to another. The Mutiny had shown that in a country that was practically roadless the rapid construction of lines connecting distant points was of the greatest political importance This aim was steadily pursued, and by 1872 trains were running between Lahore-Calcutta, Lahore-Bombay, Bombay-Allahabad-Calcutta, and Lahore-Bombay-Madras

(*b*) It has been shown in a preceding chapter that till recently no attention was paid by the Government to the development of Indian manufacturing industries We have also seen that even at the present time our exports consist mostly of raw products and imports of manufactured goods. Railway policy has stimulated this development The Indian Industrial Commission drew attention to the favourable rates for raw produce moving to the ports and imported manufactured articles moving upcountry from the ports The effect of such railway rates has been to discourage Indian manufacturing industries As an example the Industrial Commission quoted the case of hides the port rates were 50 per cent. less than the internal rates, which discouraged Indian tanning. " It would be easy to support the statements made above," the Commission added, " by numerous instances , but the facts are generally admitted " *

The result of railway policy has been the congestion of industries in port towns. The Commission, with the object of encouraging the diffusion and decentralisation of industries, recommended the adoption of the principle in railway rating that "internal traffic should be rated as nearly as possible on an equality with traffic of the same class over similar distances to and from the ports." *

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* *Report*, para 271

Complaints were made not only to the Industrial Commission but to the Acworth Committee and the Fiscal Commission that Indian industries had to pay unfair rates both on their raw materials transported from other parts of India and on their manufactured articles despatched to the various markets As may be expected the railway authorities believe that the complaints are largely unfounded The Fiscal Commission thought otherwise †

Our railway system has not developed naturally, like the English system, according to the requirements of internal trade and industry According to a foreign critic, Captain Guenther Voigt, the colonial relation between India and England furnishes the key to Indian railway policy in the past as well as the present ‡

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* *Report* para 272.

† *Report of Fiscal Com* para 127

‡ *Staat und Eisenbahnwesen in British-Indien*, concluding remarks (Julius Springer, Berlin, 1925)

CHAPTER XXVI.

THE MONEY MARKET.

The subject has been divided into three parts we shall first consider the chief features of our money market which distinguish it from the money markets of other countries, secondly, we shall study the structure of the money market, and thirdly, attention will be drawn to the important changes in our credit system which were recommended by the last Currency Commission.

The Indian money market differs in certain essential respects from the money markets of Europe The money market in the leading countries of Europe (and in the United States) is guided and controlled by a central bank which enjoys the right of note-issue and which is the custodian of the country's reserves The Bank of England, for example, is the centre of the English credit system, and the connection between the rise and fall of the Bank of England's rate of discount and the supply of credit on the one hand, and the foreign exchanges on the other, is well known. In India we have no central bank at all The Imperial Bank of India was formed in 1921 by the amalgamation of the three Presidency Banks, and its formation was regarded as the first step towards the creation of a central bank. But the Imperial Bank has not developed into a central bank While it is a bankers' bank in some sense, it has nothing to do with the management of the note-issue or the maintenance of exchange It is proposed to establish a Reserve Bank which will manage the note-issue and control both the banking and currency reserves of the country. The Reserve Bank will be a proper central bank , until it is established, the Indian banking system will remain a multiple-reserve rather than a single-reserve system

There is no direct connection between the rise and fall of the Imperial Bank rate and the exchange value of the rupee The fluctuations of the bank rate reflect the condition of the internal demand for money They do not directly influence the movement of gold to or from the country, like those of the Bank of England. The Imperial Bank is not permitted to deal in foreign bills, and while at a time when the bank rate in India is high, conditions favourable to a rise of exchange would tend to be created, the rise or fall of exchange is more directly influenced by the Government's large remittance transactions than the normal fluctuations of the bank rate.

These fluctuations themselves form the most striking contrast to conditions in the money markets of Europe

The changes in the Indian bank rate from July 1928 to the end of June 1929 are shown below

Rate of discount of the Imperial Bank of India

	Per cent.
1928, July 19	5
,, Nov 15	6
,, Dec 13	7
1929, Feb 14	8
,, April 11	7
,, May 9	6
,, June 6	5

In the course of 12 months, the rate was gradually raised from 5 per cent to 8 per cent and then reduced to 5 per cent again

The rates of discount of the leading central banks at the end of June 1929 were as follows —

	Per cent
Federal Reserve Bank of New York, since 12th July, 1928	5
Bank of England, since 7th February, 1929	5½
Bank of France, since 19th January, 1928	3½
Bank of Germany, since 25 April, 1929 ...	7½

The Federal Reserve Bank of New York had, by the end of June 1929, maintained a rate of 5 per cent for a year, and the Bank of France a rate of 3½ per cent for 1½ years The Bank of England maintained a rate of 4½ per cent from 21st April 1927 to 7th February 1929, or for 21 months The Bank rate in Germany remained unchanged at 7 per cent from 5th October 1927 to 12th January 1929, or for 15 months On 12th January it was lowered to 6½ per cent and then raised to 7½ per cent on 25th April

It will be seen that, first, changes in the Indian bank rate are more frequent as compared with those in the United States or the leading countries of Europe, and, second, that the range of fluctuations is wider In the year 1924 the highest rate was 9 per cent (February to April) and the lowest 4 (August) The year 1924 was somewhat exceptional, but normally our bank rate rises to 7 or 8 per cent in February and falls to 5 or 4 per cent in August The maximum and minimum rates in the pre-War year 1913 were 8 per cent in February and 3 per cent in August.

The extraordinary fluctuations of the bank rate are due to the seasonal character of Indian production and trade There is a busy season and a slack season, and in the absence of satisfactory arrangements for the expansion and contraction of the currency according to seasonal requirements, the bank rate must rise in the season of active trade and fall when trade is less active *

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* The seasonal character of the demand for money is well brought out by the following brief extracts from the weekly money article in the *Capital* of Calcutta

The Calcutta Money Market

1928 July 4	" Increasing ease has been the feature of the local money market throughout the week "
,, July 11.	" Banks are well supplied with funds and are taking little interest in usance money, rates for 1 and 2 months being more or less nominal in the absence of borrowers "
,, Aug 15	" The demand for money improved towards the end of the week "

The next point to notice is the close connection between the Government and the money market

Under existing conditions Government is the chief currency authority The expansion and contraction of the currency is carried out by the Government , all currency reserves are controlled by the Government , and Government alone is responsible for the maintenance of exchange

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1928 Aug	23	' Money rates have hardened during the week "
,, Sep.	12	" Treasury Bill repayments on Saturday, the 1st September, brought about easier money rates this week."
,, Oct.	17	" 'Call' and 'short' rates have been as low as 1½ per cent but a better enquiry arose towards the close [of the week] and borrowers paid 2 per cent for short money There are indications that rates for longer periods will firm up within the next week or two "
,, Nov	7	" Conditions for 'call' and 'short' money are unaltered On the other hand the enquiry for 2 and 3 months' money is broadening, rates are firm and are expected to harden within the next week or so "
,, Nov	28	" Money has been difficult to employ and rates are easier for all positions due to some extent to the announcement of the cessation of sales of Treasury Bills and the very dull state of jute business "
,, Dec	19	" Time money rates have hardened and 5½ per cent has been paid for 3 months' loans "
1929 Jan	16.	" Money has been in steady demand throughout the week "
,, Feb	6	" In the local money market money has been in good demand with supplies scarce "
,, Feb	19	" Money has been in strong demand throughout the week , prior to the announcement of the increase in the bank rate to 8 per cent short loans were quoted at 5¾ per cent, but the appearance of any large borrowers found lenders reserved On reopening on Friday 'call' was done at 6 per cent and there was a good enquiry for one month's money at 5¾."
,, Feb	26	" More stringent conditions have been seen this week "
,, March	6	" Money continues to be in strong demand and rates have been well maintained throughout the week "
,, Mar	27.	" Although there is no change in money rates to be recorded this week, there are signs that the stringent conditions which have prevailed for some weeks are relaxing to some extent "

This is not a very desirable state of affairs, either from the point of view of the Government or from that of the commercial community. Sir Basil Blackett, who preceded Sir George Schuster as the Finance Member of the Government of India, in the course of an address to the Delhi University (1925) remarked "I have said again and again that the present currency system and practice put an undue responsibility on the Government in this matter, this is one of my strongest reasons for advocating change" There are stronger reasons still for advocating change, so long as the present system continues, Government will have the power of upsetting the money market by their arbitrary action, and this power must be taken away from the Government. A good example is furnished by the rise of the Bank rate to 8 per cent on February 14, 1929 On February 13, the Imperial Bank was informed by Government that the Bank would have to pay, until further notice, 8 per cent interest on loans taken by it from Government (that is, for the issue of emergency currency), and the Bank was thus forced to raise its rate to 8 per cent

"The rise in the bank rate," wrote the *Capital* in its issue of February 21, " came as a bombshell to the market, and was forced on the Imperial Bank under protest by measures which indicate that when a conflict of opinion arises, the Finance Department is in a position to dictate the policy to be pursued Whether the arguments Government adduced in support of their decision were sound, can be proved only by experience Government carry the exclusive responsibility for the action taken, and under the elastic provisions of the Act governing the issue of

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1929 April	2	" The easier conditions noticeable towards the close of last week have been maintained "
,, May	1	" Conditions continue to become easier and the weekly sales of Treasury Bills have, as yet, had no effect in a market where lenders now predominate "
,, June	5	" Money is in abundant supply now with all rates nominal in the absence of borrowers Short loans are quoted at 1½ per cent to 2 per cent and 2 per cent for 1, 2 and 3 months' money "
,, June	26	" Rates show no change on the week and floating supplies are more than ample for borrowers "

> emergency currency, the Bank is reduced to the position of agent of the Finance Department with very little control over the policy to be pursued. It may be useful to file that fact for reference, when discussions are resumed concerning the project of a Reserve Bank Such an institution, if governed by the same rules and conventions which now determine official relations with the Imperial Bank, would obviously be 'independent' only in name "

In a statement made in the Legislative Assembly the Finance Member stated that "in order to maintain the equilibrium of exchange and to ensure that Indian prices moved *pari passu* with gold prices it was necessary to raise the level of money rates in India." The statement made later in the Council of State by Mr Burdon, Finance Secretary, was still more clear He said that since the Bank of England rate had been raised from 4½ to 5½ per cent, the market rate of exchange had varied between 1*s* 5$\frac{31}{32}$*d* and 1*s* 6*d* and that it was the duty of the Government as chief currency authority to maintain stability, that during the first two weeks of February a certain number of tenders at 1*s* 5¾*d* had been received and rejected , and that since then the Government had been able to purchase the full amount required at 1*s* 6*d* and above.

At the time when the bank rate was raised the amount of emergency currency did not exceed 9 crores against a maximum limit of 12 crores, but Government claimed that they had issued 4 4 crores of additional currency against sterling (1 crore), *ad hoc* securities (1 crore) and gold imported from South Africa (2 4 crores)

The incidence shows the importance of Government as a factor in the Indian money market It also shows the desirability of handing over the entire management of currency and exchange to an independent central bank. Conflicts of opinion on such questions between the commercial community and Government are unseemly, and they do not increase any one's confidence in the financial policy of the Government

Turning to the structure of the money market, we find that it consists of indigenous as well as foreign elements. The village money-lender, the private banker in towns and shroffs in the Presidency towns form the foundation of the Indian credit system. On this foundation there has been erected a superstructure of credit, a banking organisation, such as exists in a much more developed and complicated form in the West Both the elements, Indian and foreign, perform useful functions, but the indigenous banker, perhaps, plays the more important part in providing the agriculturist and the craftsman with the credit which they need, and also in the financing of the internal trade of the country

Banks in India may be divided into three classes the Imperial Bank of India, which stands in a class by itself, the European Exchange banks, and the Indian Joint-Stock banks. The Imperial Bank is not a State bank, but its connection with the Government of India is a close one On the Central Board of the Bank the Controller of Currency represents the Government of India, four Governors are nominated by Government to represent the interests of the Indian community, and also two Managing Governors who hold office for such periods as Government directs The Governor General-in-Council has the power to issue instructions to the Bank in respect of any financial policy which in his opinion virtually affects his financial policy or the safety of Government balances, and in the event of the Bank disregarding such instructions, the Governor General-in-Council may declare the agreement between Government and the Bank to be terminated.

The Imperial Bank keeps the whole of the Government balances, on which the Bank does not pay any interest. Before the foundation of the Imperial Bank Government used to keep a substantial portion of its balances in Reserve Treasuries at Calcutta, Bombay and Madras. This Independent Treasury System was held to be in the main responsible for the stringency of money in the busy season, but its abolition has not brought much relief to the money market By the terms of its Charter the Imperial Bank is allowed to draw, accept, discount, buy and sell bills of exchange and other negotiable instruments in India and Ceylon only The Bank is also prevented from making any loan or advance for a longer period than six months, and except on the security of two names

The main business of the Exchange banks is to finance India's import and export trade They viewed the proposal to amalgamate the three Presidency Banks into the Imperial Bank of India with a certain amount of misgiving, as they thought that the new Bank might attack their monopoly *i e*, the exchange business In a speech delivered in April 1920, the Chairman of the Chartered Bank of India (Exchange Bank) said that the Exchange banks were not hostile to the proposed amalgamation, " always provided that the present intention of not competing with the Exchange banks in their ordinary business of exchange is fully and honourably adhered to ' The Exchange banks have preserved their monopoly—the Imperial Bank is not allowed to compete with them in their special business and the Indian Joint-Stock banks, with only a few exceptions, have no foreign branches, and do not enjoy the same facilities as the Exchange banks for undertaking exchange business

The Exchange banks may be divided into two groups banks doing a considerable portion of their business in India, and banks which are merely agencies of large banking corporations doing business all over Asia Their total number is 18 (1927) and of their branches over 60 In addition to the exchange business they do ordinary banking business, and thus compete with the Imperial Bank and the Indian Joint-Stock banks. But they take very little part in the financing of the internal trade

Our foreign trade is financed as follows The Exchange banks in India collect on maturity the bills drawn on Indian importers for goods purchased by them. These bills are sent to the Exchange banks either direct by the foreign drawer or by a bank which has purchased the bill from the foreign drawer. The Exchange banks also supply knowledge to the foreign exporter about the financial position of the purchasing firms in India

With the proceeds of import bills received by them for collection and the deposits they obtain the Exchange banks purchase the exporters' bills offered to them But in ordinary years the balance of trade in merchandise is generally in India's favour. The funds that the Exchange banks have in India are generally insufficient for purchasing the exporters' bills, and they have to supplement their resources in other ways Till recently the Exchange banks did so by purchasing the Secretary of State's Council bills, at present they add to their funds by selling sterling to Government. They also import sovereigns, and gold and silver bullion.

The village mahajan, mahajans in towns and shroffs in the Presidency towns, the Joint-Stock banks, and the Imperial Bank all take a share in the financing of the internal trade The importance of the part played by the mahajan in the moving of crops from the village to the local market called the *mandi*, and from local markets to large towns and the ports cannot be exaggerated He finances (*a*) agricultural operations, which is financing industry and (*b*) trade, which is a commercial function. The village mahajan, who is the centre of the whole system, as the Indian village is the centre of Indian economic life, is not only a money-lender, but a dealer in grain and other goods. He possesses his own capital, but has also business connections with bigger mahajans in the larger towns, who deal with Joint-Stock banks.

Hundis are used in the internal trade of India. The *Hundi* is an internal bill of exchange. A considerable portion of the business of Indian banks consists in making advances against *Hundis* The shroffs in the Presidency towns purchase *Hundis* on their own account, and have recourse to banks for discounting *Hundis* only when they have exhausted their resources. They purchase *Hundis* from smaller shroffs, and these from other shroffs in the smaller towns or villages

Even before 1921 the connection between the Presidency Banks and up-country trade was very close, and the opening of 100 new branches, within five years, which was one of the conditions imposed upon the Imperial Bank when it was constituted in 1921, was meant to render this connection closer still By the rates which the Imperial Bank charges on the discount of *Hundis*, and the extent to which it shows itself willing to buy *Hundis*, it can materially affect the supply of credit in the money market in and outside the Presidency towns

The connection between the rates of discount charged by shroffs and the official *Hundi* rate of the Imperial Bank is not always a close one Sometimes in the busy season the shroff's rate is higher than the Bank rate, in the slack season, the shroff's rate is lower than the Bank rate The undercutting of the Bank by the private banker is possible because he has considerable financial resources of his own, which are employed exclusively in financing the internal trade of the country When the Imperial Bank finds that it is getting very little business in *Hundis*, and much of its cash is lying idle, it lowers its *Hundi* rate On the other hand, when it is very hard pressed for money, it may even refuse to buy new *Hundis*

The growth of Indian Joint-Stock banks has been rapid In 1870 the number of reporting banks was 2, with capital and reserve of 11½ lakhs and deposits amounting to about 14 lakhs. In 1900 the reporting banks had capital and reserve of 1¼ crores and deposits amounting to 8 crores. 13 years later the number of banks increased to 18, capital and reserve to about 2⅓ crores and deposits to over 22½ crores The progress of the Joint-Stock banks in more recent years is shown by the following table

Indian Joint-Stock banks (with capital and reserve of Rs 5 lakhs and over) Position on 31st December of each year

		1913	1920	1927
Reporting banks No		18	25	29
Paid-up capital	Crores	2 3	8 4	6 9
Reserve & rest	,,	1 3	2 5	4 2
Total	,,	3 6	10 9	11 1
Deposits	,,	22 6	71 1	60 8
Cash balances	,,	4 0	16 3	7 7

On 31st December 1927 there were also working 48 smaller Joint-Stock banks with capital and reserve between Re. 1 lakh and Rs 5 lakhs. The total capital and reserve of these smaller banks amounted to 1 2 crores, deposits to about 3½ crores and cash balances ½ crore

Combining the figures for the three classes of banks (Imperial Bank, Exchange and Joint-Stock Banks), we find that on the same date the total capital and reserves amounted to 264 crores* and deposits to 212 crores

The following table shows the proportion per cent of cash to liabilities on deposits of the several classes of banks on 31st December of each year

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* Includes 241 crores, capital and reserve of Exchange banks The figure of deposits includes deposits of Exchange banks held in India only.

	Imperial Bank (1)	EXCHANGE BANKS (2)		INDIAN JOINT-STOCK BANKS (3)	
		Class A	Class B	Class A	Class B
1913	36	19	17	18	16
4	46	28	26	21	22
5	34	19	41	22	22
6	35	25	35	24	17
7	45	40	160	25	21
8	29	20	44	23	24
9	31	35	67	21	24
1920	30	30	58	23	18
1	19	28	43	20	13
2	21	19	33	20	17
3	18	19	27	17	19
4	18	20	31	21	13
5	21	13	15	19	20
6	26	14	17	15	24
7	14	11	14	13	15

(1) Before 1921 Presidency Banks

(2) Exchange banks of Class A are those doing a considerable portion of their business in India, Class B are banks which are merely agencies of large banking corporations doing a major portion of their business abroad

(3) Indian Joint-stock banks of Class A are those having a capital and reserve of 5 lakhs and over, Class B have capital and reserve between Re 1 lakh and Rs 5 lakhs

The percentage of cash to deposits seems to be unduly low. Attention was drawn to it by J M Keynes before the War, and he predicted trouble The crisis in banking which occurred in 1913 was very severe Between 1913 and 1917 no less than 87 banks failed with a paid-up capital of 1¾ crores The largest number of failures occurred in 1914 (42 banks with a paid-up capital of over 1 crore)

The crisis was due to lack of experience and mismanagement, and partly to the attempt to finance industries with short term deposits One may hope that the Joint-Stock banks are now wiser than before.

In spite of the rapid growth of banking, considering the size and population of the country, banking facilities can only be described as very inadequate The official annual publication known as "Statement Exhibiting the Moral and Material Progress and Condition of India" for the year 1924-25 thus commented on the banking conditions in the country

> "That the number of banks at present in India is inadequate for her needs, is clear from the fact that there are at present only 100 head offices with between 300 or 400 branch banks throughout the whole country In some 20 per cent of the towns possessing a population of more than 50,000 inhabitants, there are no banks at all, while in the case of towns with a population of 10,000 and over, the proportion without banking facilities rises to 75 per cent"

At the present time the number of head offices is about 120 and of branches a little over 600

A Central Bank for India

The Bill to establish a central bank in India, called the Reserve Bank, was introduced in the Legislative Assembly in January 1927 It was described by Sir Basil Blackett as "one of the greatest measures of financial liberalism ever brought forward by the Government of India."

The establishment of a Central Bank in India was recommended by the Currency Commission of 1925. They pointed out the inherent weaknesses of the existing system in which the control of currency and credit is in the hands of two distinct authorities, the credit situation being controlled by the Imperial Bank of India and the currency situation by the Government. The currency and banking reserves of the country are also separately managed The unification of the control of currency and credit can only be brought about by the creation of a central bank enjoying the sole right of note-issue, and independent of the State The Currency Commission recommended that the central bank should be a share-holders' bank, with a fully paid-up capital of Rs. 5 crores. In making their recommendations regarding the management of the central bank they kept in view the Resolutions passed both by the the International Financial Conference of Brussels (1920) and that of Genoa (1922) to the effect that "Banks, and especially Banks of Issue, should be free from political pressure, and should be conducted solely on lines of prudent finance" The Central Board was to be composed of 14 members, of whom 9 were to be elected by shareholders, a maximum of 3 to be nominated by the Governor General-in-Council, in addition to a Managing Governor and a Deputy Managing Governor. The Government was also to be given the power of nominating an official member to the Board with the right and duty to attend and advise the Board, but not with the right to vote It was thought that in the special circumstances of India, *i e*, the wide experience of Government in the management of the currency and the great importance of Government's banking and remittance business, it was desirable that Government should nominate a small minority of members on the Central Board. This constitution left the Reserve Bank free from interference by the Executive in the day-to-day conduct of its business and in banking policy.

The Currency Commission distinctly laid it down that no person should be appointed President or Vice-President of a Local Board or should be recommended as a member of the Central Board, who is a member of the Governor-General's Council, the Council of State, the Legislative Assembly, or of any of the Provincial Governments or Legislative Councils

Differences arose in the Legislative Assembly on two points. In the first place the Assembly, by a majority, decided that the Central bank should be a State Bank, secondly, the Assembly insisted on the inclusion of representatives of Central and Provincial Legislatures in the Board of Directors.

Indian opinion prefers a State bank, that is a bank ith capital subscribed by the Government, in place of a ank with private share-capital The advantages of a share-holders' bank are recognised the board of management is elected by the share-holders, and this provides a ready-made constituency for the selection of a representative directorate, further, members of the board have themselves contributed to the capital of the bank, and they are accountable to the share-holders for money which they have contributed Such a bank may also be completely independent of the State But the fear of non-officials is that in the special circumstances of India, if the Reserve Bank were directed by a body responsible only to a number of private share-holders, it would tend to be controlled by vested interests, and that its utility to the public might even be endangered by a conflict of interests within the management of the Bank between Indian and external capital. The force of this objection is admitted by the Government, as is shown by the provisions relating to share-capital in the new Reserve Bank Bill.

As the differences between the official and non-official points of view proved irreconcilable, Government announced on 8th September, 1927 that they did not intend to proceed with the Bill Later, on February 6, 1928, discussion on the Bill was resumed, but the rejection by the Assembly of Clause VIII, relating to the constitution of the Board of Directors, ended the discussion

A new Reserve Bank Bill had been prepared by the Government, but leave to introduce it was not granted by the President of the Assembly on technical grounds The Bill is an improvement upon the old and embodies the main recommendations of the Hilton-Young Commission. Banking conditions are at present being investigated by an expert Committee, and the object of the enquiry is to prepare the ground for the establishment of the Reserve

Bank The main features of the new Reserve Bank Bill are discussed below.

The Reserve Bank is to be constituted on a share-capital basis It has been decided not to give the Imperial Bank, as was originally intended, in accordance with the recommendations of the Currency Commission, the option of subscribing 30 per cent of the shares of the Reserve Bank. Preference in the allotment of the shares will be given to those applying for one share of Rs 100. No one will be allowed, either individually or jointly, to hold shares worth over Rs 20,000, and every shareholder, whatever the value of his share, shall have only one vote Further, in order to guard against external capital, shares shall be allotted only to Indians and British subjects domiciled or ordinarily resident in India, or to scheduled banks or Indian companies and Indian co-operative societies, or British companies having a branch in India.

The maximum dividend is 5 per cent so long as the net surplus after payment of the dividend does not exceed 4 crores, and the grant of a further dividend when the surplus exceeds 4 crores is so arranged that share-holders can never hope to get more than seven per cent total dividend.

The Bank will have its head office in Bombay, and branches in Calcutta, Madras, Rangoon, Delhi and London. The five Indian centres will maintain for each area a register of shareholders The value of the shares assigned to the various registers is Bombay and Calcutta Rs 150 lakhs each , Madars and Rangoon Rs 40 lakhs each and Delhi Rs 120 lakhs (total Rs 5 crores). The share-holders of the five registers will elect altogether 92 delegates once in five years, who will constitute a sort of electoral college for the election of eleven Directors In addition, there will be 13 other Directors, of whom one will be a Government Official, who will not, however, be entitled to vote. The remaining 12 Directors will be the Governor and two Deputy Governors of the Bank, four Directors nominated by the Governor-General-in-Council, two elected by the Associated Chambers of Commerce, two by the Federation of Indian Chambers of Commerce, and one by the provincial co-operative banks to represent agricultural interests

As regards the business of the Bank, the chief features of interest are the provisions in the Bill relating to the issue of emergency currency, the buying and selling of gold and foreign currencies and the relation of the Bank to other banks, specially the Imperial Bank of India

One of the most serious defects of the Indian currency system, as we have seen, is its inelasticity

There is a provision in the Paper Currency Act for the issue of emergency currency against internal bills of exchange or *Hundis* This device imparts a certain measure of elasticity to the currency system, but it is capable of further development. Its working in the past, however, has not been unattended with difficulties, and in 1924, in spite of the loan of Rs 12 crores to the Imperial Bank under the provision mentioned above, the Government had to assist the market by expanding the note-issue to the extent of a further Rs 12 crores against British Treasury bills, ear-marked to the Paper Currency Reserve in London (Even so the Imperial Bank raised its rate of discount to 9 per cent from February to April 1924). The chief difficulty in connection with the issue of emergency currency against commercial bills is that the internal trade of India is, for the most part, financed by a system of cash credits, and the Imperial Bank has found it difficult to secure an adequate volume of bills as cover against the seasonal increase, with the result that the Government have been compelled to meet the demand for additional currency by regulating their holding of sterling securities in the Paper Currency Reserve. On more than one occasion the Imperial Bank has had to put pressure on its clients to convert cash credits into *Hundis* in order that it might have self-liquidating *Hundis* to put up as a cover against the loan from the Paper Currency Reserve These *Hundis* or bills, although they represented a real demand for finance for trade, did not represent any definite goods or commodities, being in fact manufactured bills substituted for cash credits

The provisions of the new Reserve Bank Bill, relating to the issue of emergency currency, have been so framed as to meet these difficulties

In the first place, we find included in the business which the Bank is authorised to transact the purchase, sale and re-discount of internal bills of exchange and promissory notes drawn or issued for the purpose of financing seasonal agricultural operations or the marketing of crops These bills or promissory notes must bear two or more good signatures, one of which shall be that of a scheduled bank or a provincial co-operative bank, and they must mature within six months from the date of purchase or re-discount The total face value of bills or notes so purchased or re-discounted by the Bank shall not at any time exceed one-fourth of the total face value of all bills and notes purchased or re-discounted by the Bank up to that time

In the second place, in view of the prevalent system of financing the internal trade by cash credits and the difficulty of securing an adequate volume of *Hundis* for the purpose, the Bank would be authorised to make loans and advances repayable on demand, or within 90 days, against the security of promissory notes of any scheduled bank or a provincial co-operative bank on certain conditions. This, however, is a temporary provision, for it has been provided that no loan or advance shall be made on the security of any promissory note such as is referred to here, after the expiry of five years from the date on which this provision comes into force. It is expected that within five years, the establishment of a central bank and the growth of banking will bring a bill market into existence, so that trade will be financed by drawing bills instead of opening cash credits

As regards the sale of gold by the Bank it is proposed that the Bank should sell gold for delivery in Bombay only, not in any foreign centre.

The Bank, however, shall be authorised to purchase from and sell to scheduled banks and persons approved by the Board, in amounts not less than the equivalent of 1 lakh of rupees, the currencies of such gold standard countries as may be specified in this behalf by the Governor General in-Council, and bills of exchange (including treasury bills) drawn in or on any place in any such country, and maturing within 90 days of the date of such purchase The Reserve Bank may also keep balances with banks in such countries The obligation to buy and sell gold exchange from the outset will enable the Bank to keep the external value of the rupee stable At the same time this provision will make it possible for the Bank to keep a greater proportion of its gold reserve in India. In fact, it has been provided that of the gold coin and gold bullion held in the Reserve, not less than 85 per cent shall be held in British India

Foreign currencies will be sold by the Bank to every person in amounts not less in value than that of 250 tolas of fine gold at the rate equivalent to Rs 21-3-10 per tola of fine gold (or 18*d.* per Re), making allowance for the cost of transportation of gold bullion in bulk from Bombay to the country in question, including interest on its value during transit

The Bank will buy and sell gold bullion in amounts not less than 250 tolas of fine gold (in the old Reserve Bank Bill 400 fine ounces) The rate for buying gold is Rs. 21-3-10 per tola, less cost of melting, assaying and refining the bullion tendered.

The price of gold bullion sold by the Bank for delivery in Bombay shall be Rs 21-3-10 per tola *plus* twice the normal cost of transportation of 1 tola of fine gold, including interest during transit, between Bombay and London No such addition will be made when the gold value of the rupee exceeds the parity (18*d.*) by an amount equal to or greater than the cost of transportation of gold (including interest) between Bombay and London

The Governor-General-in-Council shall from time to time determine, in accordance with these provisions, the prices at which the Bank shall sell gold bullion for delivery in Bombay.

It has been pointed out in a preceding chapter that under these conditions it will not be profitable to buy gold from the Reserve Bank except for monetary purposes

Reference has been made above to "scheduled banks" in connection with the sale and purchase by the Reserve Bank of bills of exchange and promissory notes. The "scheduled banks" are banks which figure in Schedule I attached to the Bill They are 62 in number and include Indian Joint-Stock banks, Exchange banks and other firms doing banking business in British India, with a paid-up capital and reserve of an aggregate value of not less than Rs 3 lakhs An obligation will be imposed on these "scheduled banks" to maintain a balance with the Reserve Bank the amount of which shall at no time be less than 7½ per cent of the daily average of their demand, and 2½ per cent of the daily average of their time liabilities in India. Further, every such bank shall be required to send to the Governor General-in-Council and to the Reserve Bank a monthly return showing the amount of its demand and time liabilities in India, the total amount held in currency notes of the Government and bank notes, and rupees and subsidiary coins; the amount of advances made and bills discounted and, lastly, the balance held at the Bank at the close of the month to which the return relates

It is thought that the percentages for minimum reserve balances are somewhat high for India, but they are lower than the percentages recommended by the Currency Commission, 10 and 3 per cent respectively for demand and time liabilities.

To make the control of credit by the Reserve Bank effective it was essential that the requirements regarding the maintenance of minimum reserve balances with the Reserve Bank should apply to as large a number of banks as possible, and in this respect Schedule I is satisfactory.

As a compensation for the obligation which the Bill imposes upon scheduled banks to maintain compulsory deposits free of interest in the Reserve Bank, the facilities which the Reserve Bank provides in the way of re-discount of bills of exchange and promissory notes will be restricted to the scheduled banks.

The Bank will ordinarily only re-discount bills of exchange and promissory notes, but the power of direct discount, or open market operations, has not been withheld from it. However, to prevent indiscriminate competition with the commercial banks it has been provided that this power shall be exercised only when in the opinion of the Board such action is necessary or expedient in the interests of Indian trade or commerce. The bills of exchange or promissory notes so discounted must be drawn and payable in India, arising out of *bona fide* commercial or trade transactions, bearing two or more good signatures and maturing within 90 days of the date of such purchase or discount.

The proposed agreement with the Imperial Bank provides that the Imperial Bank shall be the sole agent of the Reserve Bank at all places in British India where there is a branch of the Imperial Bank and no branch of the Banking Department of the Reserve Bank. For this service the Imperial Bank will receive a commission calculated on the total of the receipts and disbursements dealt with annually on account of Government and on behalf of the Reserve Bank. The Reserve Bank will also allow a balance to the Imperial Bank of Rs. 3 crores free of interest during the first five years from the opening of the Bank, the amount of the balance free of interest will be gradually reduced in successive periods of five years—all this is subject to the condition that the Imperial Bank shall keep open branches not less in number than those existing at the time of the coming into force of the Reserve Bank Act. Some importance attaches to this, for the Imperial Bank is the only bank in India that has a considerable number of branches.

CHAPTER XXVII.

Indian Finance, 1913-14 to 1928-29

The study of Indian finance since 1913-14 may be divided into two periods, (1) *pre-Reform*, from 1913-14 to 1920-21 and (2) *post-Reform*, since 1st April 1921, the date on which the separation of Provincial from Imperial finance was effected.

A general view of Indian finance in the pre-Reform period is given by the following Table —

Abstract Statement of the Revenue and Expenditure of the Government of India in India and England
Lakhs of rupees.

Year	Revenue	Expenditure	Surplus	Deficit
1913-14	1,27,81	1,24,34	3,47	
1914-15	1,21,74	1,24,41		2,68
1915-16	1,26,62	1,28,40		1,78
1916-17	1,47,08	1,35,86	11,22	
1917-18	1,68,99	1,56,86	12,13	
1918-19	1,84,89	1,90,62		5,73
1919-20	1,97,49	2,21,14		23,65
1920-21	2,15,02	2,11,03		26,01

It is seen that between 1913-14 and 1920-21 Indian revenue increased from 128 crores to 215, crores or 68 per cent, and expenditure from 124 crores to 241 crores or 94 per cent.

Such a large increase in Government revenue and expenditure could not take place without considerable changes in the tax system. It is therefore interesting to study the figures of revenue and expenditure under the main heads:—

General Statement of the Gross Revenue in India and England Lakhs of Rupees

Heads of Revenue	1913-14	1914 15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21
Land Revenue	32,09	31,83	33,05	33,06	32,41	31,63	33,91	31,97
Opium	2,44	2,36	2,87	4,74	4,62	4,93	4,56	3,53
Salt	5,17	5,87	5,47	7,24	8,25	6,42	5,75	6,76
Stamps	7,98	7,62	8,15	8,67	8,59	9,03	10,91	10,96
Excise	13,34	13,29	12,95	13,82	15,24	17,34	19,26	20,44
Provincial rates	27	6	6	5	4	4	5	6
Customs	11,34	9,52	8,81	12,99	16,55	18,18	22,48	31,90
Income-tax	2,93	3,06	3,14	5,66	9,46	11,64	23,21	22,19
Forest	3,34	2,97	3,11	3,71	4,10	4,68	5,37	5,41
Registration	78	73	78	81	79	86	1,09	1,12
Tributes from Indian States	93	91	91	92	90	89	93	91
Total	80,59	78,21	79,30	91,66	1,00,96	1,05,64	1,27,52	1,35,27
Interest	2,03	1,53	1,64	1,70	3,26	5,74	6,58	4,30
Posts and Telegraphs	5,40	5,40	5,68	6,26	6,93	8,01	9,21	9,62
Mint	51	10	15	1,03	78	2,74	2,68	73
Receipts by Civil Depts	2,11	2,26	2,37	2,61	2,90	3,14	3,40	3,56
Miscellaneous	1,16	1,02	1,02	1,27	7,30	10,09	2,78	20,30
Railways	26,44	23,70	26,97	31,97	36,21	37,44	31,97	25,01
Irrigation	7,07	7,02	7,17	7,73	7,60	8,02	8,75	8,80
Other Public Works	45	43	46	46	49	52	55	76
Military Receipts	2,05	2,06	1,86	2,36	2,58	3,52	4,05	6,66
Total Revenue	1,27,81	1,21,74	1,26,62	1,47,08	1,68,99	1,84,89	1,97,49	2,15,02

General Statement of the Gross Expenditure charged against Revenue in India and England.

Lakhs of Rupees.

Heads of Expenditure	1913-14	1914-15	1915-16	1916-17	1917-18	1918-19	1919-20	1920-21
Direct demands on the Revenues	13,91	13,41	14,20	13,99	14,78	17,68	18,39	22,50
Interest	2 27	1,79	1,79	1,76	10,99	12,19	13,41	16,38
Posts and Telegraphs	4 91	4,89	4,72	5,16	5,35	5,96	7,13	9,44
Mint	20	21	13	25	25	46	51	29
Salaries and Expenses of Civil Departments	26 90	28,36	28,30	28,62	31 28	35,53	38,72	41,56
Miscellaneous civil charges	8,11	7,97	7,69	8,12	8,88	9,44	9,81	11,25
Famine relief and insurance	1,50	1,50	1,50	1,50	1,50	1,50	1,71	1,50
Railways	19,25	20,46	20,85	20,75	21,34	21,59	20,62	10,38
Irrigation	5,30	5,63	5,58	5,32	5,68	5,92	6,41	7,02
Other Public Works	10,52	10,77	8,18	6,93	7,57	8,48	10 70	12,79
Military Services	31,90	32,71	35,25	39,85	46,15	70,25	91,03	94,04
Total expenditure—Imperial and Provincial	1,24,77	1,27,70	1,28,21	1,32,26	1,53,77	1,89,00	2,20,46	2,40,14
Add Portion of allotments to Provincial Governments not spent by them in the year	49		50	3,60	3,48	1,72	1,11	7,66
Deduct Portion of Provincial expenditure defrayed from Provincial Balances	*91*	*3,29*	*31*		*30*	*10*	*43*	*6,77*
Total expenditure charged against Revenue	1,24,34	1,24,41	1,28,40	1,35,86	1,56,86	1,90,62	2,21,14	2,41,03

It will be seen that in 1913-14 the Land Revenue was the most important source of revenue, the combined yield of the Customs and the Income-tax was less than half the amount of the Land Revenue realised in that year.

By its very nature the Land Revenue is a comparatively inelastic source of revenue. In those parts of the country which are not permanently settled, there is a revision of settlement at the end of a fixed term of years, when the revenue demand might be increased. Over short periods the share of the Government in the profits of cultivation would remain more or less constant At a time, then, of growing expenditure, when more revenue was wanted, it was sources other than the Land Revenue which had to be tapped

The changes in the Customs tariff have been mentioned in a preceding chapter The effect of these changes was to raise the yield of the Customs from 11⅓ crores in 1913-14 to about 32 crores in 1920-21

The Income-tax Act of 1886 was in force at the time of the outbreak of the Great War This Act applied to all incomes except those derived from agriculture Originally only incomes which were less than Rs. 500 were exempt from the tax, but the exemption limit was raised to Rs 1,000 in 1903. Incomes between Rs 1,000 and 4,999 paid 4 pies in the rupee, and incomes above that amount were taxed at the flat rate of 5 pies in the rupee.

The need for more revenue led to changes in the Act of 1886. In 1916 progression was introduced up to Rs 25,000, and in 1917 came the first Super-tax Act A new Income-tax Act was passed in 1918, when the principle of assessment on income derived from all sources was adopted in the place of the old system, hitherto in force, of assessment by water-tight compartments The exemption limit was raised to Rs 2,000 in 1919 The combined Income-tax and Super-tax rates now amounted to 4 annas in the rupee

As a result of these changes the yield of the Income-tax increased from less than 3 crores in 1913-14 to over 22 crores in 1920-21.

Attention may also be called to the increase in the Salt duty in 1916 from Re 1 to Re 1-4 per maund. The Salt duty had been reduced from Rs 2-8 in 1888 to Rs. 2 in 1903, Re. 1-8 in 1905 and to Re 1 in 1907

The raising of the Customs duties and of the Salt duty and the revision of the Income-tax were the principal changes in our tax system during the War.

As regards expenditure, the principal item is Military Services In 1913-14 military expenditure (gross) was about one-fourth of the total expenditure charged to revenue, and its amount was about 32 crores In 1920 21 military expenditure (gross) had risen to 94 crores The figures of net military expenditure are as follow:

Net Expenditure In crores of rupees

	Military Services	Total net expenditure charged to revenue
1913-14	29 8	83 2
1914 15	30 7	82.5
1915 16	33 4	85 7
1916 17	37 5	92 2
1917-18	43 6	108 0
1918 19	66 7	135 2
1919 20	87 0	161 6
1920 21	87 4	170 5

It is seen that the net cost of the Military Services (gross expenditure less military receipts) between 1913-14 and 1920-21 increased about three times. Of the total net expenditure in 1920-21, the net military expenditure represented more than half

The greater part of the increase in military expenditure took place after the signing of the Armistice in November, 1918 The explanation lies chiefly in the re-organisation and modernisation of the army, but part of the increase was due to economic causes, that is the rise in the general cost of living, which also accounts for the increase in the Salaries and Expenses of the Civil Departments.

Another interesting item of expenditure is Interest. The charges (gross) on account of Interest increased from $2^{1}/_{4}$ crores in 1913-14 to 16¼ crores in 1920-21. The growth of interest charges was due to the growth of our Debt

The following table shows our Permanent Debt in India and England:

Classification of Permanent Debt in India and England In crores of rupees

	Railways	Irrigation	Ordinary*
1911-12	305	54	49 6
1913-14	333	59	19 1
1914-15	350	62	3 33
1915-16	352	64	2 99
1916-17	354	65	5 5
1917-18	359	66	100 8
1918-19	366	67	70 6
1919-20	379	68	62 2
1920 21	377	69	97 9

The total Debt amounted to 544 crores in 1920-21, as compared with 411 crores in 1913-14, an increase of 133 crores (Railways 44 crores, Irrigation 10 crores, Ordinary Debt 79 crores) It will be noticed that Ordinary Debt was gradually being extinguished when the War broke out and, but for the War, it would have ceased to exist.

A portion of the Permanent Debt is held in England. On the 31st March 1914 the Debt in India amounted to about 146 crores and in England to £177 millions, equal to about Rs 266 crores—thus about 65 per cent of the

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**Includes New Capital at Delhi and Bombay Development Loan.*

total Debt was held in England. During the War large amounts were raised by the Government in India, and at the end of the year 1920-21 the proportions of the total Debt held in India and England were about equal.

The largest increase in the Ordinary Debt took place in 1917-18, in which year India made a special contribution of £100 millions to the War

Up to the end of 1916-17 India's total net contribution towards the cost of the War, in respect of the Expeditionary forces, was about £11½ millions, which was expected to increase to £15½ millions by the end of 1917-18 Under Section 22 of the Government of India Act, which forbids the application of the revenues of India to defraying the expenses of any military operations carried on beyond the frontiers of India, except for preventing or repelling an actual invasion, or in the case of some other sudden or urgent necessity, India could claim this amount from England, and a special Resolution had to be passed by the Parliament in order to give effect to the proposal of the Indian Government that India should bear the cost of the Expeditionary forces employed out of India. Further, very heavy payments were made in India by the Government of India on behalf of the British Government for purchases made in India by the latter, while a large part of the receipts were re-lent to the British Government The total sum invested in British securities by India since the beginning of the War up to the end of 1916-17 amounted to £46½ millions, of which £36 millions represented wholly new investment The Government of India, however, felt that India might make a further direct financial contribution towards the cost of the War, and at the beginning of January 1917, the Viceroy addressed a telegram to the Secretary of State suggesting that the Government were prepared to accept an ultimate special contribution of

£100 millions to the War.

The special contribution was paid by means of an Indian War Loan which yielded £36 millions, and contracting a sterling debt for the rest of the amount

Our financial history since the outbreak of the War may be briefly summarised as follows two deficit years (1914-15 and 1915-16) were followed by two surplus years and then followed a series of deficit years from 1918-19 to 1922-23 Since 1923-24 India has enjoyed a period of stable finance.

The budget for 1914-15 anticipated an Imperial surplus of £1¼ millions, the War converted it into a deficit of £2¾ millions Imperial revenues suffered more from the outbreak of the War than Provincial revenues, for Railways and Customs receipts (Imperial Heads) were seriously affected by the dislocation of trade due to the War—the Customs revenue fell from 11 3 crores in 1913-14 to 9 5 crores in 1914-15, and Railway receipts from 26 4 crores to 23 7 crores Taking the Imperial and Provincial figures together, there was a deficit of about 2 7 crores

The first War-budget, that for 1915-16 anticipated a deficit, but the Finance Member, Sir William Meyer, decided to leave it uncovered In the first place, it was not expected that the War would last very long, in the second place, India's unproductive debt was small in amount In view of the depressed trade conditions and the abnormal rise in food prices, it was not considered desirable to add to the burden of taxation Increased taxation could not be avoided in 1916-17—no one knew when the War would end, and deficits, year after year, could not simply be left uncovered. Increased revenue was obtained by raising the general rate of duty on imports from 5 to 7½ per cent *ad valorem*, increasing the Salt duty by 4 annas per maund; imposing duties on the exports of tea, raw jute and jute manufactures ; and higher rates of tax on incomes of Rs. 5,000 and more

The budget for 1917-18 anticipated an Imperial surplus of about £2¾ millions, but India's special contribution of £100 millions to the War imposed recurring liabilities on the country amounting to £6 millions annually New taxation was necessary in order to raise a little more than £3 millions. This was done by supplementing the Income-tax by a Super-tax on the highest incomes, by raising the duty on imports of cotton goods from 3½ per cent to 7½ per cent, by raising the duties on exports imposed in 1916, and by imposing a surcharge on railway goods traffic

Both the years 1916-17 and 1917-18 showed small surpluses The surpluses, however, were unreal This may be judged from the fact that net railway revenue increased from 6·1 crores in 1915-16 to 11·2 crores in 1916-17 and 14·9 crores in 1917-18, showing that the Government were using for general purposes a large part of the railway income which should have been reserved for renewals and railway capital expenditure

The year 1918-19 was the first of five successive years of deficits We may here consider the deficit years together, ignoring the financial changes introduced on the 1st April, 1921 The amount of the deficit in each year from 1918-19 to 1922-23 is shown below —

Year	Budget deficit Lakhs of Rupees
1918-19	5,73
1920-20	23,65
1921 22	26,00
1922 23	27,65*
1923-24	15,01*
Total	93,01

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* Imperial figures alone, those for other years are Imperial and Provincial figures combined

The deficit in 1918-19 was due to several causes: depression in trade caused by the cessation of hostilities in November 1918, failure of the monsoon, and the influenza epidemic which seriously weakened agricultural power. All this reacted on Indian finance

Net military expenditure in 1918-19 amounted to 66·7 crores. in 1919-20 it suddenly rose to about 87 crores, and it exceeded 87 crores in 1920-21. Practically the whole of the deficit in 1919-20 was due to the Afghan War, and a large part of the deficit in 1920-21 to the arrears of the same War

Apart from the Afghan War and the costly frontier operations which followed it, the years 1920-23 were troublesome years on account of the chaotic conditions of the world's exchanges and depressed conditions of trade

Substantial additions were made to the burden of taxation in 1921 and 1922 The only change in taxation in the budget for 1919-20 was the imposition of a 50 per cent duty on excess profits earned in 1918-19, and there was a re-adjustment of the Super-tax in the budget for 1920-21. In 1921 the general rate of the customs tariff was increased to 11 per cent (and in the following year to 15 per cent) and the upper grades of the Income-tax were increased so as to work up to a maximum of 12 pies in the rupee In 1922 the Income-tax was completely revised, so that the rates ranged from 5 pies on an income of Rs 2,000 to 18 pies on an income of Rs 40,000 The Super-tax rates were also increased, in the case of the largest incomes they reached a maxium of 6 annas in the rupee on any excess over 5½ lakhs.

The deficits between 1918-19 and 1922-23 were met by the issue of fiduciary currency against the Government's own I O. U's, and of Treasury Bills The situation was alarming and called for drastic remedies A Retrenchment Committee, presided over by Lord Inchcape, was appointed in 1922 to overhaul the expenditure of the Government The reductions in expenditure recommended by the Committee amounted in the aggregate to Rs. 18 crores

Separation of Provincial from Indian Finance.

We may now consider the important financial changes introduced from the 1st of April, 1921

There was a close connection between Imperial and Provincial finance before the grant of financial autonomy to the Provinces Certain heads of revenue were divided equally between the Imperial and Provincial Governments, the remaining sources of revenue were entirely Imperial or entirely Provincial In most of the Provinces the divided heads were land revenue, excise, stamps, income tax and the income from large irrigation works The entirely Provincial heads were forests, registration, the receipts under the spending departments managed by Local Governments such as ordinary public works, police, education, medical, courts and jails The following sources of revenue were wholly Imperial opium, salt, customs, mint, railways, posts and telegraphs, military receipts and tributes from Native States Like heads of revenue, some of the heads of expenditure were commonly shared by Imperial and Local Governments, while the others were entirely Local or Imperial The responsibility for all outlay connected with defence, railways, interest on debt, posts and telegraphs and the Home Charges rested with the Imperial Government . the Provinces were responsible for expenditure relating to land revenue and general administration, education, the medical department, police, jails and forests The common heads of expenditure were irrigation and ordinary public works

The Imperial Government, further, acted as a banker to the Provincial Governments, as it kept their balances. These balances consisted of large grants made by the Imperial Government to the Provinces in the past for expenditure on education, irrigation, sanitation, agricultural and veterinary development and other similar objects Provincial Governments could not spend the money at once and the result was the accumulation of balances

The abolition of divided heads involved the disappearance of Provincial figures from the Indian Budget Land revenue, irrigation, stamps and excise were made wholly Provincial, and the income tax wholly Imperial

The main reason for this important change in our financial system was that the political autonomy of the Provinces under the Reforms scheme would have been incomplete without financial autonomy The authors of the Indian Constitutional Reforms thought that the Provinces should not be dependent on the Central Government for carrying out any schemes of Provincial development. They attached very little importance to the argument that the authority of the Government of India would be lowered if the Provinces were freed from the financial control which it exercised over them On the other hand, they thought it was impossible that the old system should work successfully under the new conditions, as a large popular element had been introduced into the government of the Provinces while the Central Government was still an Official government "

As a result of the proposed financial changes a large deficit in the Indian budget was anticipated This was to be met by annual contributions of fixed amounts from the Provinces to the Central Government. The rules framed under the Government of India Act (Sec 45 A) in accordance with the recommendations of the Meston Committee, provided for a total Porvincial contribution of 9,83 lakhs in the financial year 1921-22 as follows --

Name of Province	*Contribution in Lakhs of Rupees*
Madras	348
Bombay	56
Bengal	63
United Provinces	240
Punjab	175
Burma	64
Central Provinces and Berar	22
Assam	15
Behar and Orissa	*Nil*
Total	983

These initial contributions were levied on the basis of the net additional revenues with which each province was endowed by the new financial arrangements It will be seen that the contribution made by Madras, the United Provinces and the Punjab was heavy, but it should be remembered that the contribution was not, as the Meston Committee put it, "some new and additional burden extracted from the wealth of the provinces" Those provinces which contributed most were also the largest gainers under the new financial scheme

From the year 1922-23 onwards the total Provincial contribution was to be 983 lakhs "or such smaller sum as may be determined by the Governor General-in-Council" The percentage of this total amount to be paid in each year by each Local Government was definitely fixed.

In determining the scale of contributions, the Meston Committee took into consideration the indirect contributions of the provinces to the Government of India, and in particular, the incidence of customs duties and of income tax, the industrial and agricultual wealth of the provinces with due regard to their liability to famine, and the capacity of each province for expansion and development agriculturally and industrially

The Provincial contributions were not intended to be permanent.

The growth of revenue of the Central Government made it possible to remit the contributions in 1927-28 with the exception of a small sum, and they were finally abolished in 1928-29

The revenue and expenditure of the Central Government since 1921-22 are shown by the following table

	REVENUE	EXPENDITURE	SURPLUS	DEFICIT
	Lakhs	Lakhs	Lakhs	Lakhs
1921 22	115,22	142,86		27,65
1922-23	121,41	136,43		15,02
1923 24	132,79	130,40	2,39	
1924 25	137,53	131,85	5,68	
1925 26	133,17	129,86	3,31	
1926 27	131,65	131,65		
1927-28	127,26	127,26		
1928-29 (*a*)	131,20	131,20		
1929-30 (*b*)	134,06	134,06		

(*a*) Revised estimate (*b*) Budget estimate

Attention has been called above to the realisation of a surplus in 1923-24 after a succession of deficit years The actual revenue of the Central Government in that year was indeed below the Budget estimate, but considerable economies had been effected in the expenditure, and a sum of 4 73 crores, which represented profits from the control of enemy ships belonging to India, converted a small deficit into a surplus

The Salt tax which had been doubled from Re. 1-4 to Rs 2-8 in 1923, was reduced to Re 1-4 in 1924 and the excise duty on cotton manufactures was abolished in April, 1926

There has been no addition to the burden of taxation in recent years, and the establishment of financial equilibrium is due to persistent economy in the spending departments, aided by the normal growth of revenue The customs revenue, which amounted to 11 3 crores in 1913-14 and 31.9 crores in 1920-21, was estimated at 51·2 crores in the Budget for 1929-30

Net military expenditure has now been reduced to about 55 crores. The Retrenchment Committee had recommended in 1922-23 that when prices fell, net military expenditure should be brought down to 50 crores. Though various economies have been effected, this has not been possible At present a programme is being carried out which includes the expansion of the air forces, the development of measures in connection with anti-aircraft and anti-gas regulations and the mechanisation of transport and fighting units. This was a four-year programme, beginning with 1927-28, and to carry it out the Army budget will have to be maintained at a figure of 55 crores till the end of 1931-32

The financial position is satisfactory This may be judged from the fact that during the past six years the Central Government has sacrificed a revenue of 1¼ crores from the cotton excise, 85 lakhs from import duties on machinery (now admitted free) and 1½ crores from opium, in addition to about 10 crores of provincial contributions In spite of these heavy sacrifices financial equilibrium has been maintained

It is interesting to find that a great amount of capital development has been achieved in the past five years with a comparatively small increase in the public debt In the five years ending 31st March, 1928, Government undertook capital expenditure amounting to about Rs 120 crores and £49¼ millions They raised by public loans about Rs 12 crores and £13 millions; no less than Rs.108 crores and £36½ millions were provided from other sources. Of the total amount of capital expenditure, Railways accounted for Rs. 69 crores and £48½ . other capital works Rs. 12 crores and about £¾ million , and advances to the Provincial Loans Fund Rs 39 crores The money was found as follows:

	Amount in crores
Post Office Cash Certificates and Post Office Savings Banks Deposits	37
Other Savings Banks Deposits	19¾
Revenue surpluses (including those in Revenue Reserve Fund)	12
Provision for reduction and avoidance of debt	22½
Other appropriations from revenue	3
Reduction in opening cash balance in India	16¼
Depreciation and Reserve Funds	25¼
Provident Fund balances of Railway Companies	9
Gain by Exchange	7¼
Total	152¾

Out of this total of 152¾ crores, the balance of 108 crores, referred to above, was paid, leaving a surplus of 44¾ crores The balance of sterling capital expenditure of £36½ millions was found by the remittance of this surplus of 44¾ crores supplemented by a reduction of £4½ millions in the sterling balances.

The following statement shows the interest-bearing obligations of the Government of India outstanding at the close of each financial year

	1923	1924	1925	1926	1927	1928	1929
In India, crores	476	487	515	539	554	567	604
In England, £ Millions	304	324	341	342	339	344	352
Crores	405	432	455	457	452	459	470
Total interest bearing obligations, crores	881	919	970	996	1006	1026	1074
Total productive assets held against the above obligations, crores	633	663	716	749	786	829	872
Cash bullion and securities held on Treasury account crores	44 80	50 47	57 35	51 96	37 48	24 26	30 57

The proportion of productive assets to total interest-bearing obligations rose steadily from 72 per cent. in 1923 and 1924 to 81 per cent in 1928 and 1929.

These figures show a credit position of considerable strength It is therefore surprising that any fall in the market price of Government securities should have occurred The market prices of certain typical securities of the Government of India are shown below .—

Year.	5 per cent tax free loan, 1945 55*		3½ per cent. Rupee loan*	
	Rs	As	Rs.	As.
1923	89	8	58	0
1924	97	12	65	14
1925	97	15	66	9
1926	101	1	71	6
1927	107	2	77	7
1928	106	11	76	1
1929	103	15	72	6

It would seem that the prices which ruled in 1927 and in the beginning of 1928 were unduly high on account of the abstention from borrowing which had been possible in the preceding years. The Finance Member, Sir George Schuster, finds the fall in the value of the securities unpleasant, but consoles himself with the reflection "that the higher prices of two years ago drove some investers to seek better yields abroad, and that, taking a broad view, we may be now on a healthier level."

(Market price on the 20th February)

General Statement of the Revenue and Expenditure charged to Revenue of the Central Government in India and in England In Lakhs of Rupees

REVENUE	Accounts 1927-28	Revised Estimates 1928 29	Budget Estimates 1929-30
Principal Heads of Revenue			
Customs	48,21	50,04	51,22
Taxes on Income	15,06	16,50	15,60
Salt	6,63	7,65	6,35
Opium	3,95	3,48	3,06
Other Heads	2,30	2,20	2,23
Total Principal Heads	76,16	79,87	79,44
Railways net receipts as per Railway Budget	38,67	38,91	40,55
Irrigation, net receipts	9	11	13
Posts & Telegraphs, net receipts	31	32	58
Interest Receipts	3,62	3,58	3,46
Civil Administration	99	1,01	1,12
Currency and Mint	2,77	2,68	3,06
Civil Works	16	16	18
Miscellaneous	52	88	85
Military Receipts	1,54	3,36	3,49
Provincial Contributions and miscellaneous adjustments between Central and Provincial Governments	6	1 5	
Extraordinary Items	2,36	27	1,20
Total Revenue	1,27,26	1,31,20	1,34,06

General Statement of the Expenditure Charged to Revenue of the Central Government in India and in England   In Lakhs of rupees

EXPENDITURE	Accounts 1927 28	Revised Estimates 1928 29	Budget Estimates 1929-30
Direct demands on the revenue	4,19	4,09	4,39
Forest and other capital outlav charged to Revenue	13	6	8
Railways Interest and miscellaneous charges (as per Railway Budget)	32,40	33,45	34,30
Irrigation	17	22	23
Posts and Telegraphs	79	84	81
Debt Services	15,61	15,64	15,60
Civil Administration	11,21	11,49	12,67
Currency and Mint	88	74	71
Civil Works	1,58	1,71	2,59
Miscellaneous	3,75	4,17	4,07
Military Services	56,34	58,46	58,59
Miscellaneous adjustments between tht Central and Provincial Governments	3 5	1	
Extraordinary Items	18	31	2
Total Expenditure charged to Revenue	1,27,26	1,31,20	1,34,06

Punjab Finance

The Punjab was a gainer under the new arrangements with the Central Government which came into force on the 1st April, 1921. This is brought out by the following table .

Due to the Central Govt		Due from the Central Govt.	
Details	Amount Lakhs	Details	Amount Lakhs
Moiety of total receipts from			
(a) Land revenue	123	(a) ¾ths of expenditure on famine relief	3
(b) Excise	53	(b) ½ of expenditure on Irrigation (including Interest)	45
(c) Stamps	42	(c) Other small items of expenditure	40
(d) Irrigation (net)	163	(d) Recurrent assignments from the Central to the Punjab Government	50
Total	386	(e) Half the receipts from taxes on income	23
Deduct amount due to Punjab Government	161	Total	161
Net amount payable	225		
Actual amount paid on account of fixed annual contribution for 1921 22	175		
Gain under the new arrangements	50		

At the present time the total revenue of the Punjab Government varies between 11½ and 12½ crores In 1921-22 it amounted to about 9 crores, since 1921-22 both the revenue and the expenditure have substantially increased

The growth of expenditure on Beneficient Departments calls for special mention These Departments are Education, Public Health, Medical, Agriculture, and Industries. The following table shows the expenditure on Beneficient Departments in certain years —

	1917-18 Rs. 1000	1920-21 Rs. 1000	1924-25 Rs 1000	1928 29 Rs. 1000
Education	5,25	4,95	1,09,28	1,66,31
Medical	44	95	30,63	53,27
Public Health	1,27	1,20	14,87	21,55
Agriculture	3,32	6,67	28,69	57,93
Industries	29	5	6,85	10,47

There is no question that under the existing system more can be and has been done to develop the Beneficient Departments than it was ever possible to do under the old.

Punjab Finance. Revenue. In thousands of Rupees.

	Accounts 1924-25	Accounts 1927 28	Revised estimates 1928 29	Budget Estimates 1929 30
Taxes on Income (*a*)	1,90	4 83	3,86	4,05
Land Revenue (net) (*b*)	2,94,07	3,00,15	2,85,99	2,82,07
Excise	1,18,95	1,17,73	1,29,30	1,30,31
Stamps	1,16,61	1,17,94	1,23,13	1,21,30
Forests	37,27	31,94	37,49	35,14
Registration	8,83	9,08	9,26	9,21
Total	5,77,63	5,81,67	5,89,03	5,81 78
Irrigation	4,30,02	4,08,27	3,71,73	4,50,13
Interest	5,91	10,39	9,70	10,05
Civil Administration	18,21	21,28	22,07	30,00
Beneficient Depts	22,54	31,47	36,47	36,09
Civil Works	5,32	8,60	5 04	6,51
Miscellaneous	25,15	28,36	30,90	34,92
Miscellaneous adjustments between Central & Provincial Governments	1,02	28		
TotalRevenue Receipts	10,85 80	10,90,32	10,64 94	11 49,48
Extraordinary Items	67,71	1,16,05	86,24	1,04 97
Total Revenue	11,53,56	12,06,37	11,51,18	12,54,45

(*a*) Taxes on income represent the share of the Punjab Government in the growth of revenue derived from income tax collected in the Province as far as that growth is attributable to an increase in the amounts of incomes assessed

(*b*) Net Land revenue means gross land revenue *minus* revenue credited to irrigation For example, in 1927-28 the gross collections of land revenue amounted to 4,79,60 and the revenue credited to irrigation 1,79,45, which leaves 3,00,15 as *net* land revenue.

Punjab Finance. Expenditure charged to Revenue.
In thousands of rupees.

	Accounts 1924 25	Accounts 1927 28	Revised Estimates 1928 29	Budget Estimates 1929-30
Direct demands on the Revenue	76,80	87,41	87,40	86,80
Irrigation	1,08,83	1,26,80	1,44,16	1,40,83
Debt Services	95	—22,89	—27,69	—22,29
Civil Administration	2,97,82	3,16,53	3,35,79	3,47,61
Beneficient Depts.	1,90,79	2,70,12	3,09,87	3,28,18
Buildings and Roads	70,18	2,07,93	2,15,89	1,67,59
Miscellaneous	49,34	67,44	64,88	64,92
Contributions & assignments to Central & Provincial Govts	1,75,84			
Transfer to the Revenue Reserve Fund		15,00		
Total Revenue Expenditure charged to Revenue	9,70,55	10,68,34	11,30,30	11,16,64
Capital expenditure charged to Revenue	1	1,18,20	72,00	30,67
Total expenditure charged to Revenue	9,70,56	11,86,54	12,02,30	11,49,31

CHAPTER XXVIII.

INDIA'S TAXABLE CAPACITY.

The taxable capacity of a people is the maximum amount that they can contribute towards the expenses of the State. It is found by deducting from their total income from all sources the minimum amount required for consumption, for replacing old capital and for new additions to capital.

If allowance is not made for the replacement of capital as it wears out and for additions to the country's apparatus of production, industrial efficiency will suffer, which must react on the income-earning capacity of the people Further, minimum consumption does not mean bare subsistence, or the amount required to keep a worker's body and soul together Minimum consumption must be interpreted as consumption necessary for efficiency. Taxable capacity, or the taxable surplus, is a surplus of production over costs in this sense J A Hobson says

> "I may summarise this analysis of ability to bear in the following general terms. Those elements of income which are necessary payments to owners of productive agents, in order to sustain the productive efficiency of an agent and to evoke its application, rank as costs' of production, and have no ability to bear taxation The standard wages required to keep a working class family on such a level of efficiency and comfort as will maintain and evoke the regular application of its labour power constitute labour 'costs' Such salaries, fees and profits as are necessary under existing social and economic conditions to secure the supply of the requisite amounts of business and professional ability needed for the initiation, organization and management of productive enterprise, must similarly rank as 'costs' of ability or brain labour To these must be added, under any system of private enterprise, the minimum interest required to evoke the amount of saving and the application of new capital needed to furnish the plant, tools and materials for the productive processes"[*]

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[*] *Taxation in the New State* by J A Hobson, pp 41 42

In his *Science of Public Finance* Mr. Findlay Shirras attempted to determine India's taxable capacity and on the basis of his figures he reached certain conclusions regarding the burden of taxation in India, as compared with that in England, in the year 1922. The figures are interesting. Mr Shirras found that effective taxation in the case of India in that year was 4 per cent of the gross income as compared with 24 per cent in that of the United Kingdom, and 30 per cent of taxable capacity as against 82 per cent in the United Kingdom. He indeed points out that the figures "must not be interpreted too rigorously", still the impression that they leave on the reader's mind is that India is, comparatively, a lightly taxed country. We are also often told by propagandist writers, who have never made any study of the subject, that India is the most lightly taxed country in the world

Now it is almost impossible to make international comparisons of tax-burdens This is chiefly because the things that we compare are not the same The economic organizations of two countries like India and England are different in an agricultural country the flow of production and income is less regular and constant (as it depends on the vagaries of the monsoon) than in a manufacturing country, the systems of taxation are also different our land revenue, for example, is a peculiarly Indian product, and the Indian income-tax, both in regard to the basis of assessment and the method of assessment, differs from the British income tax, the levels of income or prosperity in the two countries are not the same, and this vitally affects tax-bearing power ; finally, the burden of taxation also depends on such factors as (*a*) the objects on which the income of the State is largely spent and (*b*) whether the proceeds of taxation are spent in the country in which the taxes are raised, or a considerable proportion is spent outside the country, as in the case of India It will be seen that apart from the difficulties involved in measuring taxable capacity, international comparisons of taxable capacity must take account of so many different and involved factors, that conclusions based on them, as in the case of India and Great Britain, are scarcely of any value.

I propose to examine in some detail Mr. Shirras's estimate of our taxable capacity Mr. Shirras's estimate of our national income includes all sources of agricultural as well as non-agricultural income, and among estimates of our total income made by several writers, Mr Shirras's is the highest

As regards such estimates it has to be noted that they must be largely based on conjectural elements In chapter II, I have given my estimate of the agricultural income of ordinary cultivators of the Punjab The estimate has some claim to accuracy, unless figures of yield of the principal crops and of the value of the crops given in the official *Season and Crop Report, Punjab*, are unreliable. The estimate would gain in completeness but lose in accuracy if it included conjectural elements like milk, etc I mention milk particularly because its estimated value for the whole of British India in 1921-22 in Mr Shirras's estimate is 15 6 per cent of the total value of all produce Mr Shirras takes production at 290,665,151 maunds, at about Rs 10.7 per maund the value of milk produced is estimated at 310,36 lakhs*.

Now assuming that statistics of the number of milch-cows and buffaloes in the whole of British India are reliable, there is room for great uncertainty and differences of opinion as regards the production of milk in a given year If lower figures were taken for the production of milk and its value, the estimated national income for 1921-22 would be somewhat reduced, and taxable capacity more perceptibly diminished.

The Science of Public Finance, p 140,

Remembering, then, the conjectural element that enters into such calculations, we proceed to discuss Mr. Shirras's estimate of the taxable capacity of British India in the year 1921-22. The following is a summary of his estimate

Taxable Capacity of British India *
Table I

	1910 11 (Census of 1911)	1920 21 (Census of 1921, a distinctly bad year).	1921-22 (good for agriculture, but year of trade depression)
	Lakhs	Lakhs.	Lakhs.
1. Total Income	1942,00	2598,00	2866,00
2 Minimum Consumption	1214,00	2220,00	2220,00
3 Seed and manure	141,00	172,00	198,00
4 Replacement and ordinary additions to capital	25,00	45,00	55,00
5 Taxable capacity, 1 - 2 + 3 + 4	562,00	161,00	393,00
6 Effective taxation	79,69	118,61	129,33
7. Balance, 5 - 6	482,31	42,39	272,61

According to these figures, effective taxation amounted to 14 per cent of taxable capacity in 1910-11, 74 per cent in 1920-21 and 33 (not 30) per cent in 1921-22.

Given a certain total income, taxable capacity can be made as high as one likes by adopting a low standard of minimum consumption Mr Shirras thus explains the allowance for minimum consumption

> "The allowance for minimum consumption has been arrived at after a study of family budgets collected by the Labour Office of the Government of Bombay, and the figures have been corroborated by similar inquiries elsewhere. The standard of comfort is an elastic term, and taxable

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* F. Shirras, loc. cit., p 147.

> capacity will vary with different standards of comfort In India, the standard is low, and one looks hopefully to education and geater productivity as a means to the raising of this standard of living. We take then the standard of living as it is and not what it ought to be "*

I have said above that minimum consumption must not be interpreted as bare subsistence. The Inquiry by the Bombay Labour Office, as we have seen in a preceding chapter, revealed the interesting fact that the workers in the cotton mill industry consume a smaller quantity of cereals than the diet prescribed in the Bombay Jail Manual Mr. Shirras's reference to the Bombay inquiry is enough to excite distrust But this is not all Starting from a consumption allowance of Rs. 240 a year for a family of five persons in 1910 (Rs. 48 per head) mentioned by Jack in his *Economic Life of a Bengal District,* and assuming that the prices of food grains in 1922 were 90 per cent higher as compared with the year 1910, Mr Shirras allows Rs 90 per head for minimum consumption in 1922. But prices had risen more than 90 per cent The rise in the prices of the principal food grains in 1920-21 and 1921-22 is shown by the following table

Prices of food grains Figures in brackets are index numbers.

Food grains	1910		1921		1922	
	Rs a p		Rs a p		Rs a p	
Rice, average of Moonghy and Ballam, per Md	3 8 6	(100)	7-8 6	(213)	6-11 0	(189)
Wheat, Club No 2 Per Md	4 2 0	(100)	7 4-0	(176)	8-2-0	(197)
Other food grains—	Seers		Seers		Seers	
Jowar, per Re	15 8	(100)	6 39	(247)	8 72	(181)
Bajra ,,	14 31	(100)	5 57	(257)	7 04	(203)
Gram ,,	17 02	(100)	5 87	(290)	7 27	(230)
Barley ,,	20 3	(100)	8 32	(244)	9 74	(208)
Ragi ,,	13 98	(100)	7 84	(178)	8 51	(164)
Average		*(100)*		*(299 3)*		*(196 6)*

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* F Shirras, loc cit., p. 146

[These prices have been taken from *Index Numbers of Indian Prices, 1861-1926* (Commercial Intelligence Dept) The prices of rice and wheat are wholesale and those of "Other food grains" retail. In order to convert the retail prices quoted into wholesale, we may reduce all quantities in seers given above by 2 or 3 per cent, the extent of the rise of prices would not be affected thereby]

It is seen that as compared with 1910 the average price of the food-grains mentioned above rose 96 6 per cent in 1922, or about 7 per cent more than the figure assumed by M Shirras This, as we shall presently see, is a point of some importance.

[It would be interesting to know what figures of prices were used by Mr Shirras None are quoted in the book]

Taking Rs 48 as the minimum consumption per head in 1910-11, the allowance for minimum consumption in 1921-22, *without assuming any rise in the standard of consumption*, would be Rs. 94 4, for this sum in 1921-22 was equal in purchasing power to Rs. 48 in 1910-11. The total allowance for minimum consumption for a population of 247 millions in 1921-22 thus amounts to Rs. 2331,68 lakhs, instead of Rs. 2220,00 lakhs assumed by Mr Shirras

Taking Rs 2331,68 lakhs as the minimum consumption, taxable capacity in 1921-22 may be estimated as follows

Table II.

		1910 11 Lakhs	1920-21 Lakhs	1921-22 Lakhs
1	Total income	1942,00	2598,00	2866,00
2	Minimum consumption	1214,00	2331,68	2331,68
3	Seed and manure	141,00	172,00	198,00
4	Replacement and ordinary additions to capital	25,00	45,00	55,00
5.	Taxable capacity, 1 − 2 + 3 + 4	562,00	49,32	281,32
6	Effective taxation	79,69	118,61	129,33
7.	Proportion of effective taxation to taxable capacity	14%	140%	46%

It is seen that effective taxation in 1921-22 amounted to 46 per cent of taxable capacity

This figure cannot be accepted as showing the burden of taxation in 1921-22 without certain reservations

(1) Following Mr Shirras I have assumed that Rs 48 per head was sufficient as allowance for minimum consumption in 1910-11, and therefore Rs 94.4 in 1922. But even a small increase of about three rupees in this allowance would raise the proportion of effective taxation to taxable capacity from 46 per cent. to about 61 per cent *

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* The total allowance for minimum consumption made by Mr Shirras for 1910 11 is 1214 crores for a population of 242 7 millions, or Rs 50 per head On this basis, prices having risen 96 6 per cent in 1922, minimum consumption would amount to Rs 97 2 per head, or a total of 2400,84 lakhs The result is the reduction of taxable capacity from 393,00 lakhs (see Table I) to 212,16 lakhs and the rise in the proportion of effective taxation to taxable capacity to about 61 per cent

Mr Shirras's statement that public authorities in India took 30 per cent of the total taxable capacity in 1921-22 is misleading Firstly, taking the minimum consumption per head in 1910 to be Rs 48 and allowing for the 90 per cent rise in the prices of food-grains assumed by Mr Shirras, the allowance for minimum consumption in 1921-22 would be Rs 91 2 per head, or Rs 2252,64 lakhs for a population of 247 millions, not 2220,00 lakhs (see Table I). The taxable capacity would be Rs 360,36 lakhs (not

(2) In an agricultural country taxable capacity must be considered with reference not to a single year, but a period of 3 to 5 years As against 46 per cent in 1921-22, effective taxation amounted to 140 per cent of taxable capacity in 1920-21, which means that in that year taxes were paid by unduly restricting necessary consumption and making less than necessary allowances for replacement and new additions to capital. The losses of one year must be set off against the profits of other years It follows that the burden of taxation in 1921-22 was much heavier than is indicated by the proportion of taxation to taxable capacity for that year If the total income, costs and taxation for the two years are combined, effective taxation is found to be about 75 per cent of taxable capacity

Taxable capacity of British India (see Table II)

		1920-22 Lakhs
1	Total income	5464,00
2	Total cost	5133,36
3	Taxable capacity, 1—2	330,64
4	Effective taxation	247 94
5	Proportion of taxation to taxable capacity	74 9 per cent

The figures, of course, are not exact and, as has been said above, a correct measure of taxable capacity can only

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393,00 lakhs, a difference of more than 32½ crores), and the proportion of effective taxation to taxable capacity would be 36 not 30 per cent. Secondly, as we have seen, the actual rise of prices in 1922 was about 97, not 90 per cent Thirdly, having allowed Rs 50 per head for minimum consumption in 1910-11 Mr Shirras should have allowed at least Rs 95 in 1922, in view of the 90 per cent rise in the prices of food grains assumed by him At the rate of Rs 95 per head, the total allowance for minimum consumption would be Rs 2346,50 lakhs, taxable capacity would be Rs 266 50 lakhs, and the proportion of effective taxation to taxable capacity 48 5 per cent.

be arrived at (given reliable estimates of income and cost) by considering income and cost in a period comprising good, bad and indifferent years It must, however, be obvious that in a good agricultural year taxation amounts to about half the taxable capacity, and in a bad year to much more than the total taxable capacity The average for three or five years may be nearer 75 than 50 per cent.

(3) It should not be forgotten that in the estimates of total income no allowance has been made for that part of income which is lost to the country in the shape of profits of industries controlled by foreign capital, nor has any allowance been made for tax-receipts spent outside the country.

(4) Finally it is relevant to point out that per capita income of India in 1922, according to Mr Shirras, was Rs 116. This may be compared with the *pre-War* estimate of £50 (equal to Rs 750) for the United Kingdom

The burden of taxation has increased substantially in recent years We have seen that in 1910-11 taxation represented only 14 per cent of the taxable capacity.

It has been said above that the Indian income-tax differs both in regard to the basis of assessment and the method of assessment from the British income tax These differences may be briefly explained

Under the Act of 1918 the basis of assessment in India was income for the current year, the present basis is income for the previous year This is an improvement upon the old practice, but there is no provision under the existing system for the setting off of losses against profits of subsequent years The basis of assessment in the United Kingdom is the average income of three years.

The exemption limit in India is high, but no provision is made for allowances in respect of wife, children and dependents. Marriage is universal in India, but the tax-bearing capacity of different families with the same income is not the same. It is affected not merely by the number of children and dependents but by the number of boys receiving school or college education, as all parents know.

No differentiation is made between earned and unearned incomes in India. The great majority of unearned incomes are, however, those derived from investments in the land, and there would not be much use in differentiating between earned and unearned incomes so long as agricultural incomes remain excluded from the operation of the income-tax.

The method of graduation in India is not ideal. Incomes are divided into classes and different rates are charged according to the class to which the income belongs. To guard against an obvious defect, provision has been made for reduction in the amount of income-tax payable by an assessee in certain cases, but as pointed out by the Taxation Enquiry Committee, the defect is not entirely removed by Sec 17 of the Income Tax Act of 1922*

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*This Section provides that where, owing to the fact that the total income of any assessee has reached or exceeded a certain limit, he is liable to pay income-tax or to pay income-tax at higher rate, the amount of income tax payable by him shall, where necessary, be reduced so as not to exceed the aggregate of the following amounts, namely—

(*a*) the amount which would have been payable if his total income had been a sum less by one rupee than that limit, and (*b*) the amount by which his total income exceeds that sum

The rates of income-tax are given below.

In the case of every undivided Hindu family, every individual and every unregistered firm

Range of income		*Rate*
Income less than Rs 2000		Nil
Rs 2,000 or upwards, but less than	Rs 5,000	5 pies in the Re
Rs. 5,000 ,, ,,	Rs 10,000	6 ,,
Rs. 10,000 ,, ,,	Rs. 20,000	9 ,,
Rs 20,000 ,, ,,	Rs. 30,000	1 anna
Rs 30,000 ,, ,,	Rs 40,000	1¼ annas ,,
Rs 40,000 or upwards		1½ ,,
In the case of every company and every registered firm whatever its total income		1½ ,,

The income tax is heavy It will be admitted that the whole of the income of an assessee above Rs 1,999, making no allowance for cost of living, children or dependents, is not taxable income. In fact, no attempt is made in this country to discover any one's taxable income as is done in the United Kingdom *

It may be hoped that as more experience is gained of the working of the income-tax, the more obvious defects of the present system will be removed.

Reform of the land revenue is more urgently necessary.

As we have seen, the land revenue is no longer a source of Imperial revenue But it is an important source of Provincial revenues, and as such its nature and the burden that it imposes upon the landholder deserve our careful attention

The land revenue administration in different parts of the country shows great variety. Permanent settlement was introduced in Bengal in 1793, Madras and Bombay have ryotwari settlements under which the settlement is made with the cultivating proprietor, and the United Provinces and the Punjab have village (mahalwari) settlements which are based on the joint and several responsibility of the village bodies, by means of a representative lambardar, for

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The super tax is levied on the excess over 50,000 rupees of total income at rates rising from 1 anna for every rupee of the first 50,000 rupees of such excess (in the case of every company) to six annas in the rupee on the highest incomes

* The method of graduation in England is as follows From the total income of the tax payer for the year a sum equal to one sixth of the earned income is deducted (Finance Act, 1925) subject to a maximum of £200. The remainder is called "assessable income" (the exemption limit ranges from £135 to £150 of assessable income according as the income is wholly investment or wholly earned) Fixed deductions are made from the "assessable income" for the tax payer himself, for his wife, children and certain dependents What is left is called "taxable income" The first £225 of the "taxable income" is charged at one half the standard rate The standard rate is fixed by Parliament at the commencement of each financial year It amounted to 6s. in the £ in 1920-21 and is at present 4s. in the £.

the payment of the revenue. The settlements made, except in permanently settled tracts, are temporary The revenue demand can be, and is in most cases, enhanced at the end of a fixed term of years, generally 30 (in the Punjab now 40 years).

While there is general agreement as to the progressive reduction of the State's share in the profits of cultivation under British rule, there is great uncertainty as to the amount that is actually taken by the State Figures for different provinces are quoted in the Report of the Taxation Enquiry Committee, and the Committee thus comments on them

> "The factor which chiefly forces itself on the attention in connection with these figures is the extreme uncertainty as to what is the share taken of the net produce of the land, which share was till quite recently the chief source of revenue of the State In other countries, as has been seen, the land tax is imposed at a definite rate upon a definite basis of assessment In India the basis may be rentals or net assets The rentals may be customary, controlled or assumed The net assets may include or exclude the subsistence of the cultivator The rate may vary with the opinion of the individual settlement officer as to the circumstances of the tract, with the conditions of the district at the time of settlement, with the conditions of tenancy, or with the opinions of the Local Government of the day as to what is a reasonable increase to take As a consequence, it is impossible to say what is the incidence of the land revenue upon the land"*.

On an average, perhaps, 25 per cent of the net assets is taken, which has now been prescribed as the maximum of the State's share in the Punjab.

What is the nature of the payment made by the landholder to the Government ? Is it rent or a tax ?

The question has been long discussed The following points may be taken as established†.

(1) The Hindu or Muhammedan rulers never claimed exclusive rights in the land; in other words, they definitely recognised the existence of private property in the land

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* *Report* p 77.

† See *Report of the Taxation Enquiry Committee (1924-25)*, pp 61-2.

(see above chapter II, p. 32)

(2) The Government have no proprietary right in the case of lands under permanent settlement.

(3) In temporarily settled tracts the zamindars and ryots hold proprietary rights subject to the payment of land revenue. Government is not the owner of cultivated land in villages and estates As Baden-Powell says · "The Government is certainly not owner of this, the utmost it does is to regard the land as hypothecated to itself as security (in the last resort) for the Land Revenue assessed on it "* He concludes that the discussion regarding the nature of the land revenue is "a profitless war of words" The land revenue is "a thing *per se*" and it "*operates* as a tax on agricultural incomes '

As a tax on agricultural incomes the land revenue is a bad and oppressive tax. There is no exemption limit and no graduation As the Taxation Enquiry Committee put it, the land revenue "viewed as a scheme of taxation is not only not progressive, but actually tends in the opposite direction "† It is an old tax but the dictum that an old tax is a good tax does not apply in the present case, for conditions, from the point of view of the landholder, in consequence of the laws of inheritance and other causes, have, in the course of centuries, changed materially for the worse

The smallest holder pays the land revenue, 25 per cent of the net assets (let us say), as the largest holder. It is the large holder who has benefited most by the progressive reduction in the State's demand mentioned above, for prices having risen, he has been able to pay the land revenue by selling a progressively smaller quantity of his surplus produce. The small holder, on the other hand, having little or no surplus, must find it increasingly difficult to bear the burden of the tax, particularly when his holding tends to become progressively smaller and uneconomic.

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* *Land Revenue in British India*, p 49

† *Report of the Taxation Enquiry Committee*, p. 77.

Taxation should rest on surplus or taxable capacity. It will be ridiculous to talk of any "surplus" or "taxable capacity" in the case of holders of less than 5 acres (58 per cent of the total number of owners in the Punjab), living on the margin, not of comfort but of bare subsistence.

The Taxation Enquiry Committee recognised that the land revenue operated hardly on small cultivators But they suggested no measures of relief They recommended that "for the future the basis of the settlement should be annual value" by which is meant "the gross produce less cost of production, including the value of the labour actually expended by the farmer and his family on the holding, and the return for enterprise" This is not a new principle, enunciated for the first time, nor will a standard rate of assessment of not more than 25 per cent recommended by the Committee form a new departure in the land revenue policy A Punjab official, Mr. J. P. (later Sir Patrick) Fagan wrote about assessments in the Punjab in 1921

> "There is now no presumption that the actual assessment should be equal to half the net assets In point of fact the proportion of net assets taken for land revenue in the assessments which have been carried out during the last ten years has on the average been about one fourth, and in some cases, indeed, less has been taken even than that fraction"*

"Net assets" mean the same thing as "annual value" of the Taxation Enquiry Committee

We may agree with the Committee that the real relief of the poorest cultivator will be found "in a better system of rural economy generally rather than in a change

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Land Revenue by J. P Fagan (1921), p 23 Printed by Punjab Government Branch Press, Simla of the land revenue system."* It is obvious that the poorest cultivator would not feel the burden of the land revenue if he were not so poor, that is, if he produced a larger amount of wealth But it is certain that any increase in agricultural production that may take place as the result of agricultural improvement will be largely neutralised by the growth of numbers. The cultivator 50 years hence will be as poor as he is to-day, if not poorer (on account of a further decrease in the size of the holding), unless the pressure of population on the soil can be reduced. In these circumstances the question of giving the poorest cultivator relief in other and more practical ways must be considered.

The Taxation Enquiry Committee have recorded their opinion that the land revenue "is a tax *in rem* [on things] levied at a flat rate" and therefore it is "impossible either to graduate it or to give exemption to particular lands because of the circumstances of the persons who cultivate them"†

The land revenue is a certain proportion of the net assets, and net assets mean nothing but the surplus produce of the land, or its economic rent—in other words, net income from the land The whole object of the process of assessment is to determine the net assets of the different assessment circles into which a tract under settlement is divided The Settlement Officer in his assessment report proposes certain average all-round assessment rates per acre of soil or crops, but these rates are derived from his estimate of the net assets of the class of soil concerned Ultimately, then, the rates proposed and accepted by the Government represent a tax on agricultural income

It will also be admitted that the ground for the enhancement of the Government demand at a new settlement is increase in the net income from the land.

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* † *Report*, p. 88

When net income is the basis of the land revenue demand, the land revenue must be treated as a tax on agricultural income. The present position is anomalous because what operates as a tax on income is administered like a tax on things.

The reform of the land revenue consists in abolishing the so-called tax on things and substituting in its place a graduated tax on agricultural incomes, with an exemption limit The principle must be recognised in the case of agricultural as it is in that of non-agricultural incomes, that no burden shall be imposed where the ability to pay is *nil*, and that the sacrifice demanded from the tax-payer shall be in proportion to his real ability to bear tax-burdens

It will, perhaps, be objected that the yield of the proposed tax on agricultural incomes will be less than that of the land revenue. This is not an argument that will convince the small-holder—the gap must be filled from other sources and by cutting down expenditure

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